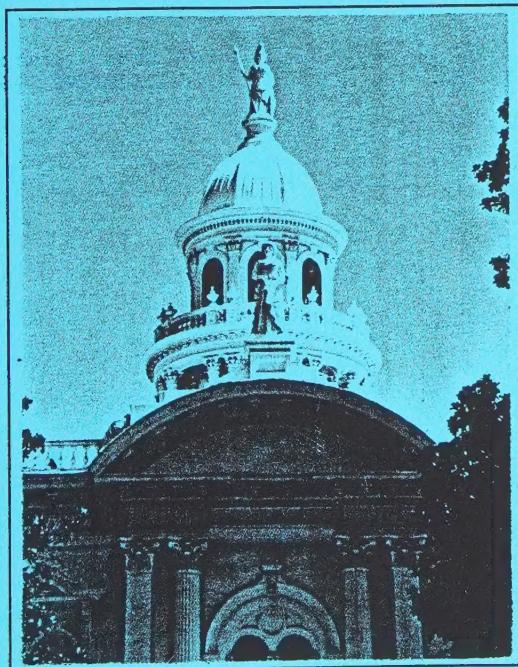


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Merced Vision 2015

General Plan

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*Recommended for Adoption by the Merced City Planning Commission
on March 19, 1997*

Adopted by the Merced City Council on April 7, 1997

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THE HISTORY OF THE

CHAPTER I

The first part of the history of the world is the history of the human race. It is a history of the progress of the human mind, of the growth of human knowledge, and of the development of human civilization. It is a history of the human race, of the human mind, and of the human civilization.

CHAPTER II

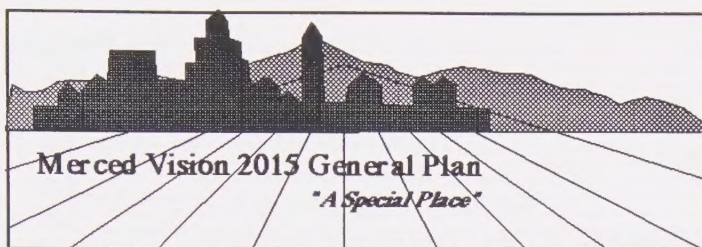
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CHAPTER IV

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Photographer is Kim Espinosa, Senior Planner

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Chapter I

General Plan Summary

I.I MERCED VISION 2015 GENERAL PLAN

It has been projected that twenty million people will be added to California's population by the year 2015. A significant portion of this population growth is expected to find its way into the San Joaquin Valley. Merced, like many other Valley communities, must be prepared to respond to the challenges and changes that population growth pressures will bring to this area.

Currently, Merced residents enjoy Merced's compact size, its small-town feeling, surrounding agricultural and open space land, the parks and historic structures, the beautiful tree-lined streets, the creekside bikeways, etc. These are the result of much effort on the part of concerned citizens and appointed and elected officials.

These people looked at what the City was and decided what they wanted it to become. This is "planning" --and what the *Merced Vision 2015 General Plan* is all about. It builds on the efforts and visions of the past and states the aspirations for the future. The challenge, laid down by those who have preceded us, is to guide our City's growth into the new millennium in such a manner that

our children and our children's children may enjoy the same high quality of life that we enjoy today.

The *Merced Vision 2015 General Plan* envisions a growing community that preserves much of its small town flavor and social setting, a city that has an improved economy, adequate public services and cultural facilities, and a good overall quality of life for its residents. In 2015, people will have various transportation options. Parks and open spaces will link residential, commercial, and employment centers in such a manner as to provide an attractive pedestrian and bicycle alternative to driving. Convenient public transit systems will serve these areas as well.

The future of Merced includes the 10th University of California (UC) campus and connection to an improved rail system. The UC campus will provide a major educational resource to the City and its residents, and the improved rail and highway systems will link Merced with all of the major metropolitan areas of the state. The *Merced Vision 2015 General Plan* anticipates these developments and contains policies and strategies for maximizing the benefits that they will bring to our community.

I.II WHAT IS THE GENERAL PLAN?

California State law requires all cities and counties to have an adopted general plan. This general plan serves as the blueprint for the community's future growth and development. The general plan must address certain issues which are directly related to and influence land use decisions.

General plans must address seven issue areas, known as "elements," which need to be consistent with each other. The seven required elements are land use, transportation, open space, conservation, housing, noise, and safety. The plan must analyze issues of importance to the community, set forth policies for conservation and development, and outline specific programs or actions for implementing these policies.

I.III GENERAL PLAN DIAGRAMS

The Land Use Diagram is an integral part of the General Plan. The Diagram graphically expresses the Plan's development policies by showing the desired arrangement and general location of land uses. The Diagram is required to be consistent with the General Plan text under California law. To be useful to City officials, staff, and the public, the Land Use Diagram must allow anyone who uses the Plan to reach the same conclusion about the designated use of any property covered by the Plan.

Figure 3.1 is the City's Land Use Diagram, which can be found in the map pocket at the back of the General Plan document. It presents the general

distribution of the uses of land within the City of Merced and its SUDP (or growth boundary).

The Land Use Diagram and text together specify the number of people and dwelling units per net acre of land for each property planned for residences and the building intensity for commercial and industrial development. Other pertinent features of the Land Use Diagram include the locations of existing and proposed parks, public schools, and other public facilities such as fire stations.

General plans also must contain a Circulation Element. This Element shows the location and extent of existing and proposed thoroughfares, transportation routes, terminals, and other local public utilities and facilities and correlates them with the Land Use Element. Merced's Circulation Plan (*Figure 4.1* of the General Plan) shows current and proposed arterials, collector streets, and local streets as well as bikeways and rail lines (on separate maps). This roadway system has been tested against the planned level of development proposed in this plan and has been found to be adequate.



I.IV ASSUMPTIONS AND CONSIDERATIONS

The *Merced Vision 2015 General Plan* relies on several assumptions regarding existing and anticipated future conditions within Merced's growth area, otherwise known as the Specific Urban Development Plan (SUDP). (See **Figure 2.4** in the Urban Expansion Chapter). Specifically, these assumptions are:

- 1) The 10th University of California (UC) campus will be developed in the vicinity of Lake Yosemite on the northeastern edge of the Merced growth boundary or SUDP.
- 2) Future population growth in the Merced growth area will approach 145,000 by the year 2015 and 240,000 by the year 2035.
- 3) In order to accommodate efficient levels of service delivery, regional urban development (residential, commercial, and industrial) will be focused within the Merced City's growth area (SUDP) and not in the unincorporated areas surrounding the City.
- 4) The average household size in the SUDP will remain at approximately three people per dwelling unit.
- 5) To accommodate the future growth of the City's SUDP, the General Plan will need to accommodate approximately 48,000 housing units (roughly double the existing number in the urban area).
- 6) To accommodate future growth, sufficient land area will need to be set aside to support approximately 37,700 employment opportunities within the City's growth area.

- 7) Projected growth estimates will occur within the planning time-frames (20 years).

If some of these events do not occur within the next 20 years, the General Plan goals and policies will need to be reevaluated in light of changing conditions.

I.V GOALS, POLICIES, AND IMPLEMENTING ACTIONS

The heart of the *Merced Vision 2015 General Plan* are the goals, policies, and implementing actions. In following these directives, the City will chart the course of growth and development and determine the nature of the environment and future character of Merced. *Goal*, *Policy*, and *Implementing Action* are used in the Plan as defined below:

- **Goal** = A general, overall, and ultimate purpose, aim, or end toward which the City will direct effort.
- **Policy** = A specific statement of principle or guiding action which implies clear commitment. A general direction that the City will follow in order to meet its goals by undertaking specific action programs. It is assumed that each policy statement is preceded by the phrase, "The City shall..."
- **Implementing Action** = An action, activity, or strategy carried out in response to adopted Policy to achieve a specific Goal.

I.VI MAJOR GOALS

The *Merced 2015 General Plan* aims to achieve the following goals as well as many others. (A complete summary of the General Plan's goals and policies can be found in Chapter II of this Executive Summary.):

- ◆ Expansion of the urban limit line (SUDP area) to accommodate expected growth
- ◆ Preservation of prime agricultural land around the City
- ◆ Continuation of the predominantly north-south growth pattern
- ◆ Expansion of the "Sphere of Influence" (ultimate urban growth boundary) to include rural residential centers east of the City and the UC campus site/Smith Trust property
- ◆ A joint City/County planning effort for the area around the future University of California campus
- ◆ *Economic Development*: Planning well in advance for industrial/business park uses and for the infrastructure needed to support such development
- ◆ A flexible and efficient circulation system which can accommodate all modes of transportation (private cars, public transit, bicycles, pedestrians, etc.)
- ◆ Mixed-use, transit- and pedestrian-friendly "urban villages" with direct access to commercial centers from surrounding neighborhoods
- ◆ Location of higher densities along transit corridors
- ◆ A diversity of housing types and opportunities
- ◆ Housing affordability
- ◆ "*Sustainable Development*" = The efficient use and management of land and other natural resources in order

to conserve them for the use of present and future generations

I.VII CHAPTER BY CHAPTER SUMMARY

The *Merced Vision 2015 General Plan* is organized into eleven chapters, which are summarized in the following section.

Chapter 1--Introduction:

California State law requires all cities and counties to have an adopted general plan. This general plan serves as the blueprint for the community's future growth and development. The general plan must address certain issues which are directly related to and influence land use decisions.

The *Merced Vision 2015 General Plan* is organized into eleven chapters which cover the major issue areas affecting the City's future growth. The heart of each of these chapters is the goals, policies, and implementing actions (see Sections I.V and I.VI).

Other highlights of the Introduction include:

- a description of the preparation process of the *Merced Vision 2015 General Plan*;
- a brief history of the growth and development of the City of Merced from 1870 to the present;
- a table that shows where each of the State-mandated requirements may be found in the Plan;
- descriptions of local and regional planning agencies; and,
- information about administering and amending the General Plan over time.

Chapter 2--Urban Expansion:

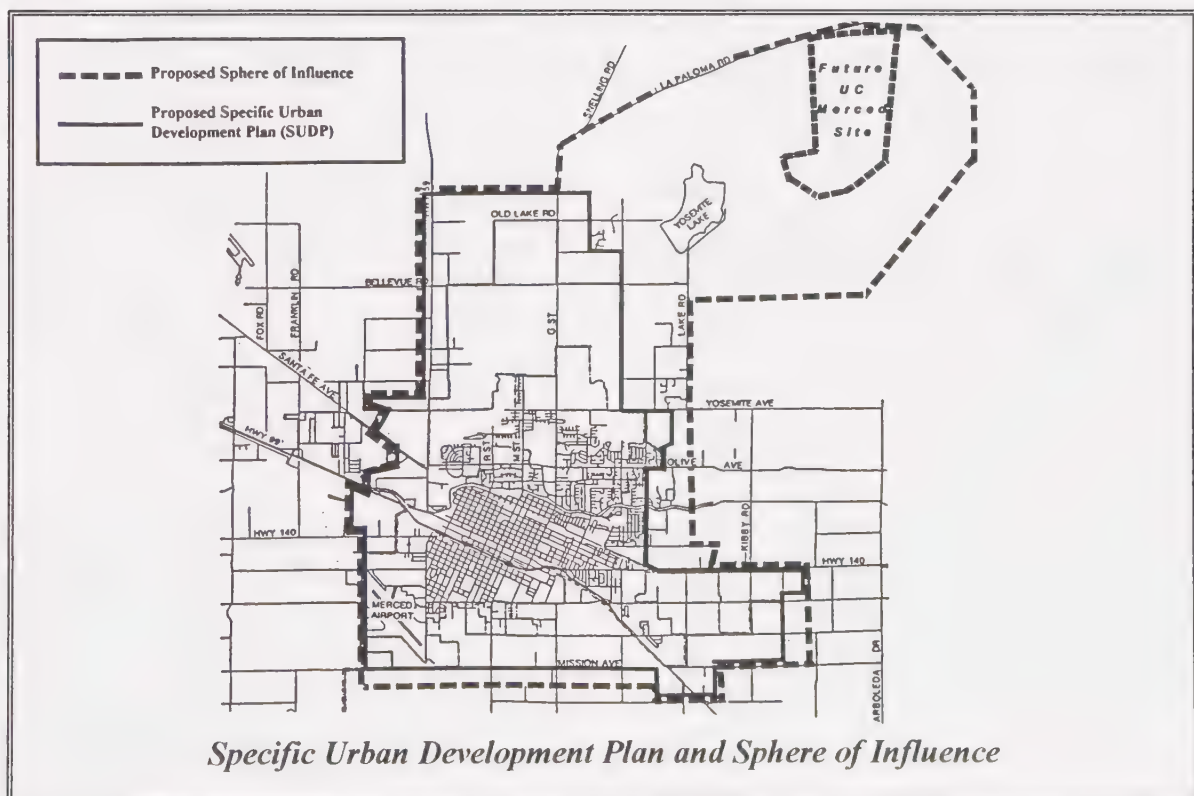
Since 1959, the City has had an adopted general plan with major updates occurring in 1968, 1981, and 1996. The most current update was strongly influenced by a series of long-range planning studies which began in 1990 with the 40-year growth study or *Merced 2030: How Should We Grow?* The process continued with the *North Merced Conceptual Land Use Plan* and the *Commercial and Industrial Land Study (1994-2010)*.

The overall approach of the *Merced Vision 2015 General Plan* is to develop a strategy to accommodate future population growth in the most efficient manner possible. The General Plan guides urban development to the north towards the least productive agricultural soils in the area and away from other environmentally-sensitive areas to the east, west, and south.

Growth in the City of Merced is influenced by the planning policies of Merced County. The extent of future City growth is defined by the urban growth boundary [or Specific Urban Development Plan (SUDP)] adopted by the City and County.

The *Merced Vision 2015 General Plan* proposes an expansion of the City's SUDP by 4,300 acres to accommodate the City's projected growth over the next 20 years. A larger "Sphere of Influence" is also proposed which includes the area around the future University of California campus and the County rural residential centers along the City's eastern boundary.

Urban Expansion Goals in the *Merced Vision 2015 General Plan* are aimed toward maintaining a compact urban form, preserving significant agricultural areas, and promoting annexation to achieve efficient public service delivery.



A joint City-County planning process is also anticipated for the area around the UC campus, and a “greenbelt” is proposed for the area between Merced and Atwater.

Other highlights of the Urban Expansion Chapter include:

- a description of the constraints that influenced the City’s growth boundaries (also known as the Specific Urban Development Plan or SUDP) and Sphere of Influence;
- a discussion of annexations and growth along the City’s fringe; and,
- population projections for the Merced area from 1995 to 2035.

Chapter 3--Land Use:

The Land Use Chapter of the *Merced Vision 2015 General Plan* establishes land use goals and policies, supported by implementing actions, for the manner in which new development will occur and existing uses and resources will be preserved in the City of Merced. The future land use configuration of the City will be shaped through the implementation of this chapter.

Goals, policies and actions of the Land Use Chapter are intended to support and reinforce the current quality of life in the City. The key element of Land Use policy is the General Plan Land Use Diagram (*Figure 3.1*--included in a pocket at the back of the General Plan document), which depicts the location of the permitted type and density/intensity of all land uses within Merced’s SUDP. The land use policies contained in this Plan establish order and focus for the City’s land use pattern and provide the framework for future land use planning

and decision making in the City of Merced.

The *Merced Vision 2015 General Plan* Land Use Chapter covers four major issue areas:

1) Residential Neighborhoods:

The “neighborhood” is the focus of Merced’s residential environment. Much effort has been made to preserve and enhance the City’s residential neighborhoods through policies which seek to protect neighborhoods from incompatible developments and blighting influences.

Policies relating to the promotion of a wide variety of housing types and convenient access to jobs and commercial services, along with the implementation of Merced’s “Urban Village” concept will guide the development of Merced’s future neighborhoods.

2) Economic Environment:

The City of Merced will likely continue to be the commercial, financial, and governmental center for Merced County during the coming years. Merced will also likely continue to face high unemployment rates compared to statewide averages. In order to combat this, the City must take an active role in economic and job development.

The *Merced Vision 2015 General Plan* has taken a long-range view by designating many more sites for future industrial use than are projected to be needed during the 20-year planning period. This was done because of the need for large sites for certain kinds of industries, the lead time needed to provide sites with

good access and critical infrastructure, the need to overcome impediments to development on some existing industrial sites, to provide market choice, and to reduce unemployment.

A new land use category, "Business Park," which allows a mix of commercial, office, and industrial uses has been proposed to help combat increasing air quality and traffic concerns.

The *Merced Vision 2015 General Plan* encourages the development of commercial areas which conveniently serve the residential population, provide employment opportunities, form an attractive segment of the community, and contribute to the community's tax base. Six different categories of commercial land use are defined within the Plan.

The Plan also promotes the continued vitality of the downtown and economic development efforts such as the Enterprise Zone. The Land Use Diagram proposes five employment areas with high concentrations of commercial and industrial development.

3) **Urban Growth and Design:**

Mixed-use and transit- and pedestrian-friendly design concepts are to be applied in the City's new growth areas and in existing areas where feasible. It should be noted that pedestrian- and transit-friendly design does not mean that the automobile is excluded. It simply means that more consideration is given to more effectively accommodating pedestrians, bicycles, and transit as well as the private

automobile. Efficient circulation of automobiles will continue to be emphasized but not to the exclusion of other forms of transportation.

4) **Specific Plans and Master Development Plans:**

The City makes use of specific plans and master development plans to master plan large areas. The City has four adopted and four proposed specific plans.

Other highlights of the Land Use Chapter include:

- land use definitions of planned land uses in Merced in residential, commercial, industrial, reserve, open space, and other categories; allowable densities and intensities in each; and, interrelationships among uses;
- a table comparing the distribution of planned land uses in the *Merced Vision 2015 General Plan* with the 1981 General Plan; and,
- an analysis of residential, commercial, and industrial land needs through the year 2015.



Chapter 4--Transportation and Circulation:

The Transportation and Circulation Chapter addresses the City's major road system, local street patterns, air facilities, bus and rail transit, and bicycle and pedestrian ways. The goal is to identify the most effective ways to plan for circulation while enhancing the community and protecting the environment.

The goals and policies presented here are intended to coordinate circulation with land use by concentrating higher residential densities and major trip destinations in the vicinity of major roadways and public transit corridors.



The *Merced Vision 2015 General Plan* Circulation Plan features:

- a comprehensive system of arterial streets in a one mile grid system;
- an upgraded Highway 59 to serve as a beltway or "ring-road" to carry cross-town traffic around established portions of the community;
- a major transit corridor (M Street) designated along the central core of the entire City; and,
- an expanded off-street bikepath system along the City's creeks linking together open space areas, employment centers, and residential neighborhoods.

Ultimate buildout of the City's SUDP will require significant public improvements to the circulation system in order to maintain an acceptable level-of-service, including new highway interchanges and upgrades to existing interchanges, about 60 miles of new or improved major streets, some separated-

grade railroad crossings, and numerous new bridges and traffic signals. How to finance this needed infrastructure is one of the critical issues facing the community as it grows.

Goals and policies in this chapter promote major streets, which are designed to maximize efficiency, and local streets designed to provide access for neighborhood destinations, minimize unnecessary travel demands on major streets, and minimize impacts on the environment. Alternative modes of transportation (bicycles, transit, walking) are also promoted through the provision of adequate facilities and the design of new developments that minimize barriers to their use. Adequate passenger rail and air service are also an important aspect of the City's circulation system.

Several important circulation issues will require further study after the adoption of the General Plan, including access to the UC campus, the location of beltways, upgrading Highway 99 through the City, expanding the off-street bicycle system in South Merced, and financing circulation infrastructure.

Other highlights of the Transportation and Circulation Chapter include:

- descriptions of the current and planned transportation systems, including regional and local streets and highways, transit services, bicycle facilities, rail and air service, and pedestrian facilities;
- characteristics, design standards, and cross-sections for the different categories of streets (arterials, collectors, etc.); and,
- a table summarizing the current and projected levels-of-service for roadways throughout the City.

Chapter 5--Public Services and Facilities:

The goals and policies contained in this chapter address the provision of public services and facilities necessary to meet the demands of Merced's residents now and in the future. The General Plan postulates what facilities may be needed or desired in the future. This includes looking for the most cost-effective and efficient ways of providing services as well as searching for alternative means of financing capital improvements.

A wide variety of public services and facilities are addressed in this chapter, including:

- Fire and Police Protection;
- Water
- Wastewater
- Storm Drainage/Flood Control
- Solid Waste Disposal
- Schools
- Library and Cultural Services
- Health and Justice Services

The location of fire facilities is a critical factor in providing adequate fire protection to the citizens of Merced. The time and distance that must be traveled to the scene of an emergency can determine whether fire suppression efforts will be successful. The goals, policies, and actions in this chapter address locational criteria and distribution goals for new fire facilities.



Community-based policing aims to bring police officers into the neighborhoods

they serve to increase citizen involvement and to try to deter criminal activity before it starts. This chapter includes policies designed to implement these concepts.



The *Merced Water Supply Plan* has evaluated the City's water needs through 2030 and suggested strategies for meeting those needs. In cooperation with the County and Merced Irrigation District, the City will develop conservation and recharge efforts to stabilize the region's aquifer.

The provision of adequate wastewater facilities to serve the City's new growth areas will require master planning for new collection facilities and expansion of the City's treatment plant. These issues as well as the promotion of uses for reclaimed water are addressed in the policies in this chapter.

The master planning of facilities for managing and disposing of storm water run-off will be mandated as the City's population reaches 100,000. Working with the County and MID, the City will support a regional approach to addressing this mandate. The policies in this chapter address the above efforts as well as designing multi-use (storm drainage, groundwater recharge, flood control, and recreation/open space) facilities.

State law mandates that the amount of solid waste deposited in landfills be reduced significantly in the coming years. The City is committed to working with the County to promote source reduction,

material recovery, and recycling programs while at the same time reducing impacts from disposal facilities on City residents.

As the City grows, new school facilities will need to be provided. Although the responsibility for providing these facilities resides with the school districts, it is in the City's interest to make sure that schools are adequately sized, centrally located to the populations they serve, and adequately served by infrastructure. The goals and policies in this chapter address desired school locational criteria, the collection of school impact fees, and the cooperative planning of higher educational facilities.

Library and cultural facilities are essential to maintaining Merced's high quality of life. The City supports these services by planning for new facilities, exploring long-term financing options, encouraging joint use of facilities, and promoting public access to information technology.

Government and health-related facilities also provide essential public services which will need to be expanded as the City grows. The policies in this chapter encourage the central location of major government facilities in the downtown area and convenient access to health-related facilities for all of Merced's citizens.



Other highlights of the Public Services and Facilities Chapter include:

- descriptions of current and future services and facilities provided by the City and others, such as fire and police protection, water, wastewater disposal, storm drainage/flood control, solid waste, schools, and cultural facilities;
- goals and policies regarding the maintenance and improvement of Merced's infrastructure, the cost-effective provision of public services, and requiring new development to provide or pay for its fair share of public improvements; and,
- a discussion of proposed strategies for financing public facilities.

Chapter 6--Urban Design:

Urban design concepts tend to fall into two distinct categories relating to:

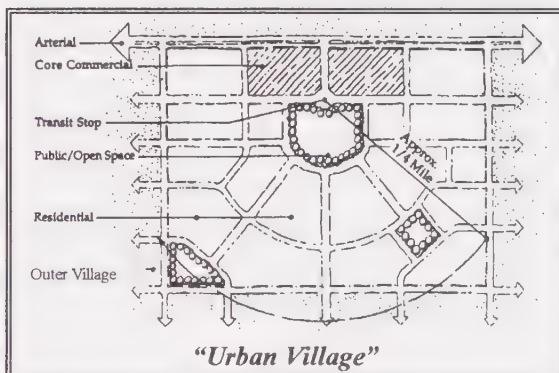
- 1) The location of different land uses throughout the city and their relationship to one another; and,
- 2) The visual character and appearance of individual buildings, sites, and districts.

Within the *Merced Vision 2015 General Plan*, the urban design focus for new growth areas is primarily defined by the *Urban Village* concept (mixed use, pedestrian- and transit-friendly neighborhoods). These villages are made up of core commercial centers and medium-density residential areas within walking distance of the center, surrounded by lower-density housing.

The *Urban Village* and other land use and design concepts have been implemented in the *Merced Vision 2015*

General Plan through the following guiding principles:

- Conserve natural resource areas that give form and character to the community.
- Promote an urban form that integrates housing, shops, work places, schools, parks and civic facilities.
- Reinforce the elements of the community which give Merced its unique identity.
- Expand the city's non-vehicular transportation network.
- Promote convenient pedestrian and vehicular access to transit, commercial, recreation, and residential places.



- Reinforce the downtown as a focus point in the City. Conserve the special qualities of existing neighborhoods and districts.
- Focus residential, commercial, and employment center development to encourage public transit use.
- Maximize the use of city streets as public spaces.
- Assure that development takes place in a balanced manner in order to promote the economic vitality of evolving areas.

Other highlights of the Urban Design Chapter include:

- a detailed description of the City's "Urban Village" growth model, including definitions of *inner villages*, *outer villages*, *core commercial areas*, and *Village Core Residential areas*;
- policies regarding the appearance of buildings and districts throughout the City; and
- suggested urban design guidelines for architects and designers.

Chapter 7--Open Space, Conservation and Recreation:

Open space is one of the essential elements contributing to the high quality of life in the City of Merced. It provides a multitude of functions that are beneficial to the community. Open space provides parks and recreation areas, preserves natural resources, provides an avoidance mechanism for development near hazardous areas, and provides buffers between non-compatible uses.

The Merced SUDP area includes a significant amount of "open space," including areas preserved for permanent open space, parks, water basins, beltway corridors, agriculture, etc. Additional area will be preserved for open space for recreation, wildlife or wetlands habitat conservation, or agricultural use, through the development review process.

The *Merced Vision 2015 General Plan* recognizes that the urban form of the City of Merced will be shaped through the retention of open space and agricultural lands. The Land Use Plan proposes the preservation of open space

by concentrating urban development and channeling future development north and south of the existing City onto lands with lesser overall agricultural value.

The General Plan takes advantage of the open space opportunities afforded by utility rights-of-way, using them as bike and pedestrian trails, landscaped environmental corridors, or parks. Canals and streams are also used as multi-purpose trailways. Landscape and scenic corridors within the street system (including street trees) provide open space relief and add to the open space character of the Merced community.

The Open Space, Conservation, and Recreation chapter contains policies for open space lands and for conservation of natural and man-made resources within the City's SUDP, including water, wildlife, soil, and historic/cultural resources. It also contains policies for the development of recreation resources in the community and the use of open space lands for recreation purposes, including expansion of the City's urban forest and creekside bicycle/trail system.

Other highlights of the Open Space, Conservation, and Recreation Chapter include:

- descriptions of the various types of open space and parks in the Merced area;
- an inventory of the City's biological and wildlife resources, including sensitive species and potential wetlands;
- issues for future study (greenbelts, future park sites, groundwater recharge facilities, etc.); and,
- an action plan for implementing the City's open space goals.



Chapter 8--Sustainable Development:

The *Merced Vision 2015 General Plan* seeks to build an environmentally and economically "sustainable" city. A "sustainable city" is a city designed, constructed, and operated to efficiently use land and other natural resources, minimize waste, and manage and conserve resources for the use of present and future generations.

A "sustainable" community is one where:

- 1) housing, schools, shopping areas, and other things which meet most of the daily needs of residents are located within convenient distance of one another;
- 2) higher population densities are located around transit stops to provide the critical mass of people and activities needed to make transit economically viable;
- 3) housing provides places to live for a variety of people within a single neighborhood; and
- 4) mixed use and transit-friendly commercial and employment centers are promoted.

Such a community makes efficient use of land and promotes alternative modes of transportation, thus helping to preserve both our air quality and quality of life.

This chapter addresses important environmental and resource issues, such as air quality, energy conservation, historic preservation, as well as soil, water, and wildlife resources.

Conversion of “prime” agricultural soils to non-agricultural uses can result in an irreversible loss in the agricultural production capacity of the region. Policies contained in the *Merced Vision 2015 General Plan* focus on the issue of agricultural soil loss and attempt to balance the urban growth needs of the region with the need to minimize urban encroachment onto “prime” agricultural soils.

Long-term growth and development in Merced depends on adequate clean water resources. Sustained development can be accommodated through the implementation of policies that address the need to preserve and protect water quality while planning for the future water needs of the City and surrounding agricultural lands.

Man’s settlement of the San Joaquin Valley has had a profound impact on the wildlife resources of this region over the past 100 years. Today it is recognized that the health of our natural plant and animal communities is a barometer for the overall health of our environment. It is also recognized that modern, healthy human communities can coexist beside healthy wildlife communities with the sound application of open space policy and technology. The General Plan contains policies and actions which are directed to the preservation, protection, and enhancement of the important wildlife habitat resources found in the Merced urban area.

Poor air quality has become a negative symbol of modern urban development.

Our quality of life is often measured by the quality of the air in our urban places. Poor air quality is related to a number of factors. Air quality policies in this Plan address this complex environmental issue by promoting integrated land use and circulation patterns, and cooperation with regional organizations that seek to restore the region’s clean air.

Energy use is closely related to issues relating to air quality. The burning of fossil fuels as an energy source has been one of the most significant contributors to our deteriorating air quality. Long term growth is highly dependent upon how we use energy today and how we plan future energy use. This chapter contains specific goals and policies which address issues of energy conservation and encourage the use of sustainable energy resources.

Historic and cultural resources are important elements in the appearance and man-made environment of Merced. The *Merced Vision 2015 General Plan* contains numerous references to the linkages between the past, present, and future. This chapter contains specific goals and actions intended to guide future City historic preservation efforts.



Main Street—circa 1920

Other highlights of the Sustainable Development Chapter include:

- a discussion of our water resources and water quality data;
- data regarding energy use in California and noteworthy energy facts;
- a description of Merced's important historical buildings and neighborhoods and the context in which they were built;
- an inventory of Merced Area soil resources, including soil types, characteristics, and associations; and,
- a detailed discussion of air pollutants, including sources, effects on people and the environment, and the extent of the problem in the San Joaquin Valley.

Chapter 9--Housing

(Adopted December 21, 1992):

The Housing Chapter is presented in four major sections. They are:

2) Introduction and Overview

This section provides background information on the Housing Element and an overview of the rest of the chapter. It includes a glossary of terms used in the Housing Element.

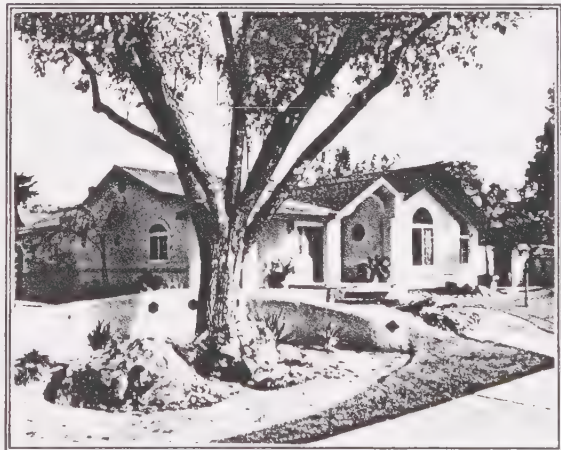
2) Housing Background

This section provides a summary of demographic data on Merced's population, housing conditions, and special housing needs in the City of Merced. It also presents the regional housing needs figures from the Merced County Association of Governments, an overview of vacant land and housing development potential, constraints to that potential, a brief discussion of energy

conservation opportunities, a discussion of at-risk housing units, and an evaluation of the City's 1986 Housing Element.

3) Goals, Policies, & Programs

This section presents the goals, policies, and implementing programs pursued by the City from 1992 to 1997 to address housing needs. The goals and their related policies and programs are organized by four goal areas: 1) New Affordable Housing Construction; 2) Housing Conservation and Rehabilitation; 3) Housing Affordability; and, 4) City Coordination. Target dates and responsibilities are identified for each program as are Quantified objectives.



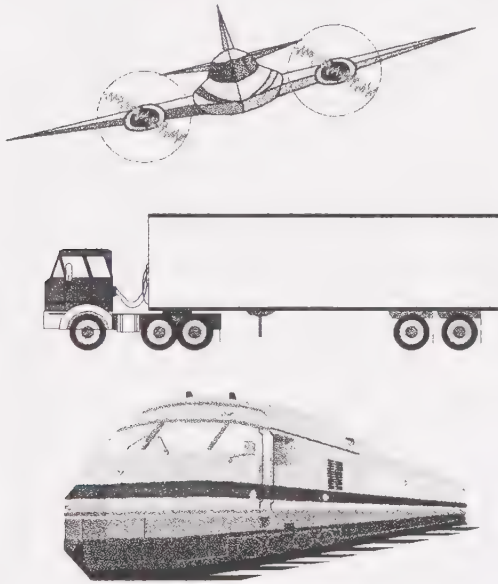
4) Implementation Matrices

A matrix is provided for each of the four goal areas to provide an overview of the programs identified in the Housing Element and serve as a tool for tracking implementation activities. For each program, the matrix identifies objectives for the one-year and five-year timeframes, implementation responsibilities, estimated staff hours required, and estimated budget allocation for the first year (1992).

Chapter 10--Noise:

(Adopted March 15, 1993)

The main purpose of the Noise Chapter is to identify noisy areas and to provide measures for protecting residents from the harmful effects of excessive noise. The Noise Chapter is based on an analysis of current and projected noise levels for streets and highways, railroads, and airports. Existing noise-sensitive land uses such as hospitals, rest homes, schools, and long-term medical care facilities are identified, and a set of City policies are established to deal with excessive noise.



The Noise Chapter provides a systematic approach to: 1) the measurement and modeling of noise; 2) the establishment of noise standards; 3) the control of major noise sources; 4) community planning for the regulation of noise; and, 5) the achievement of land use compatibility through the adoption of specific policies with respect to noise.

Existing noise contours for all major sources of noise in the City of Merced have been identified. These noise

contours are used as a guide for establishing land use patterns in the Land Use Chapter that minimize the exposure of community residents to excessive noise. The Noise Chapter also includes policies and implementation measures that address protecting sensitive land uses from excessive noise, minimizing impacts of noise on the general population, and reducing noise levels.

Other highlights of the Noise Chapter include:

- strategies and noise abatement techniques for dealing with noise problems;
- truck routes and noise compatibility guidelines;
- discussions regarding the basic characteristics of noise as well as social, economic, and psychological effects of noise; and,
- technical data used to calculate current and projected noise contours for major noise sources.

Chapter 11--Safety:

(Adopted January 3, 1995):

The main purpose of the Safety Chapter is to provide policies and implementing actions aimed at reducing injuries, death, property damage, and the economic and social dislocation resulting from natural hazards. The Safety Chapter proposes ways of protecting the community from any unreasonable risk associated with such hazards and seeks to minimize the risk as much as practical. It is recognized, however, that hazards are an unavoidable aspect of society and that, therefore, some degree of risk is inherent in everyday life.

The Safety Chapter provides a systematic approach for responding to hazards relevant to the City of Merced through a set of goals, policies, and actions designed to deal with those hazards. Seismically induced ground shaking, ground failure, dam failure/seiche, flooding, urban and wildland fires, crime, air crashes, and hazardous materials are considered the relevant hazards to the City of Merced.

These policies and actions, among other things: a) encourage the seismic improvement of public facilities and infrastructure; b) endeavor to remove most of the City from the 100-year floodplain by following certain building standards and supporting federal flood control projects; c) restrict certain land uses in airport approach zones; d) support community-based police services; and, e) promote hazardous materials clean-up efforts.

Other highlights of the Safety Chapter include:

- a discussion of the City's disaster and emergency response systems, including evacuation routes;
- maps of areas subject to flooding and dam failure inundation; and,
- a detailed discussion of historic seismic activity in California.



Chapter II

Goals and Policies Summary

Chapter 2—Urban Expansion

GOALS

- A Compact Urban Form
- Preservation of Agriculturally Significant Areas
- Efficient Urban Expansion

POLICIES

- UE-1.1 Designate areas for new urban development that recognize the physical characteristics and environmental constraints of the planning area.
- UE-1.2 Promote a compact urban form.
- UE-1.3 Control the timing, density, and location of new land uses within the City's urban expansion boundaries.
- UE-1.4 Establish a joint City-County planning program on the UC San Joaquin (Merced) site and Smith Trust lands.
- UE-1.5 Work with Merced County and the City of Atwater to establish a Greenbelt area between the Cities of Atwater and Merced.
- UE-1.6 Preserve the "Northern City" urban expansion area for anticipated growth needs beyond the year 2015.
- UE-1.7 Promote annexation of developed areas within the City's Specific Urban Development Plan (SUDP) during the Planning Period.

Chapter 3—Land Use

Goal Area L-1: Residential & Neighborhood Development

GOALS

- Housing Opportunities in Balance with Jobs Created in the Merced Urban Area
- A Wide Range of Residential Densities and Housing Types in the City
- Preservation and Enhancement of Existing Neighborhoods
- Quality Residential Environments
- Pedestrian-Friendly Residential Environments
- A Sense of Community

POLICIES

- L-1.1 Promote balanced development which provides jobs, services, and housing.
- L-1.2 Encourage a diversity of building types, ownership, prices, designs, and site plans for residential areas throughout the City.

Land Use—Residential & Neighborhood Development—Continued

- L-1.3 Encourage a diversity of lot sizes in residential subdivisions.
- L-1.4 Conserve residential areas that are threatened by blighting influences.
- L-1.5 Protect existing neighborhoods from incompatible developments.
- L-1.6 Continue to pursue quality single-family and higher density residential development.
- L-1.7 Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services.
- L-1.8 Create livable and identifiable residential neighborhoods.

Goal Area L-2: Economic & Business Development

GOALS

- Increased Employment Opportunities for the Citizens of Merced.
- A Diverse and Balanced Merced Economy
- Preservation of the City's Economic Base
- High Quality Industrial Areas
- Ready Access to Commercial Services Throughout the City
- A Revitalized Downtown Area

POLICIES

- L-2.1 Encourage further development of appropriate commercial and industrial uses throughout the City.
- L-2.2 Locate new or expanded industrial parks in appropriate areas.
- L-2.3 Promote the retention and expansion of existing industrial and commercial businesses.
- L-2.4 Provide a range of services adjacent to and within industrial areas to reduce auto trips.
- L-2.5 Maintain attractive industrial areas.
- L-2.6 Provide neighborhood commercial centers in proportion to residential development in the City.
- L-2.7 Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets.
- L-2.8 Encourage a mixture of uses and activities that will maintain the vitality of the downtown area.

Goal Area L-3: Urban Growth & Design

GOALS

- Living Environments which Encourage People to Use a Variety of Transportation Alternatives
- A Compact Urban Village Design for New Growth Areas
- Self-sustaining, Mixed-Use, Pedestrian-Friendly Neighborhoods

POLICIES

- L-3.1 Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.
- L-3.2 Encourage infill development and a compact urban form.
- L-3.3 Promote site designs that encourage walking, cycling, and transit use.

Chapter 4—Transportation & Circulation

Goal Area T-1: Streets & Roads

GOALS

- An Integrated Road System that is Safe and Efficient
- A Circulation System that is Convenient and Flexible
- A Circulation System that Minimizes Adverse Impacts upon the Community

POLICIES

- T-1.1 Design streets consistent with circulation function and affected land uses.
- T-1.2 Coordinate circulation and transportation planning with pertinent regional, state, and federal agencies.
- T-1.3 Design major roads to maximize efficiency.
- T-1.4 Promote traffic safety.

Transportation & Circulation—Streets and Roads—Continued

T-1.5 Minimize unnecessary travel demand on major streets.

T-1.6 Minimize adverse impacts on the environment from existing and proposed road systems.

T-1.7 Minimize street system impacts on residential neighborhoods and other sensitive land uses.

T-1.8 Use a minimum peak hour level-of-service (LOS) “D” as a design objective for all new streets in new growth areas and for most existing City streets except under special circumstances.

Goal Area T-2: Alternative Transportation

GOALS

- **An Efficient and Comprehensive Public Transit System**
- **A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)**
- **A Comprehensive System of Safe and Convenient Pedestrianways**

POLICIES

T-2.1 Provide for and maintain a major transitway along “M” Street and possibly Bellevue Road.

T-2.2 Support and enhance the use of public transit.

T-2.3 Support a safe and effective public transit system.

T-2.4 Encourage the use of bicycles as alternative transportation.

T-2.5 Provide convenient bicycle support facilities to encourage bicycle use.

T-2.6 Maintain and expand the community’s existing bicycle circulation system.

T-2.7 Maintain a pedestrian-friendly environment.

T-2.8 Improve planning for pedestrians.

T-2.9 Ensure that new development provides the facilities and programs that improve the effectiveness of Transportation Control Measures and Congestion Management Programs.

Goal Area T-3: Air & Rail Service

GOAL

- **Air and Rail Systems that Provide Safe and Convenient Service to the Community**

POLICIES

AIR

T-3.1 Preserve the municipal airport and its protective zones from incompatible encroachment.

T-3.2 Promote and encourage the orderly and timely development of commercial and general aviation facilities.

T-3.3 Provide adequate ground transportation systems that complement air transportation facilities.

RAIL

T-3.4 Reduce rail system impacts on the road system within the urban area.

T-3.5 Support enhanced railroad passenger service to Merced.

T-3.6 Retain and expand as needed rail facilities serving industrial development.

Chapter 5—Public Services & Facilities

Goal Area P-1: Public Services & Facilities

GOALS

- **Maintenance and Improvement of Merced’s Existing Infrastructure**
- **New Development Which Includes a Full Complement of Infrastructure and Public Facilities**
- **Efficient and Cost-Effective Public Service Delivery**

POLICIES

P-1.1 Provide adequate public infrastructure and services to meet the needs of future development.

P-1.2 Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely, and economically efficient extension of infrastructure and services where necessary.

P-1.3 Require new development to provide or pay for its fair share of public facility and infrastructure improvements.

Public Services & Facilities—Continued

Goal Area P-2: Police & Fire Protection

GOAL

- A Community Reasonably Safe From Crime and Fire

POLICY

P-2.1 Maintain sufficient public protection equipment and personnel to serve the City's needs.

Goal Area P-3: Water

GOAL

- An Adequate Water Source, Distribution, and Treatment System in Merced

POLICIES

P-3.1 Ensure that adequate water supply can be provided within the City's service area, concurrent with service expansion and population growth.

P-3.2 In cooperation with the County and the Merced Irrigation District, work to stabilize the region's aquifer.

Goal Area P-4: Wastewater

GOAL

- An Adequate Wastewater Collection, Treatment, and Disposal System in Merced

POLICIES

P-4.1 Provide adequate wastewater collection, treatment, and disposal capacity for projected future needs.

P-4.2 Consider the use of reclaimed water to reduce non-potable water demands whenever practical.

Goal Area P-5: Storm Drainage

GOAL

- An Adequate Storm Drainage Collection and Disposal System in Merced

POLICIES

P-5.1 Provide effective storm drainage facilities for future development.

P-5.2 Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.

Goal Area P-6: Solid Waste

GOAL

- Solid Waste Management Services That Accommodate the Local Population Without Causing Significant Damage to Environmental Resources

POLICIES

P-6.1 Establish programs to recover recyclable materials and energy from solid wastes generated within the City.

P-6.2 Minimize the potential impacts of waste collection, transportation, and disposal facilities upon the residents of Merced.

Goal Area P-7: Schools

GOAL

- Adequate School Facilities for All Students in the Merced Urban Area

POLICIES

P-7.1 Cooperate with Merced Area School Districts to provide elementary, intermediate, and high school sites that are centrally located to the populations they serve and adequate to serve community growth.

P-7.2 Support higher educational opportunities.

Public Services & Facilities—Continued

Goal Area P-8: Cultural & Community Services

GOAL

- Support for Cultural and Community Services that Improve and Maintain the Quality of Life for the Residents of Merced

POLICIES

- P-8.1 Support the cultural and health-related needs of the community by incorporating such facilities and services in development and redevelopment proposals.
- P-8.2 Promote consolidation of complementary or support services to avoid duplication of programs.
- P-8.3 Work with others to study innovative ways of delivering library services at the neighborhood level to promote community education and provide a focus for community activity and cultural development.

Chapter 6—Urban Design

Goal Area UD-1: Urban Villages

GOALS

- Integrated Urban Form
- Transit Oriented Community Design
- Pedestrian and Bicycle Compatibility

POLICIES

- UD-1.1 Apply Urban Village design principles to new development in the growth areas of North Merced.
- UD-1.2 Locate Urban Villages to promote convenient vehicular, pedestrian, and transit access.
- UD-1.3 Promote and facilitate Core Commercial design principles in Village commercial areas.
- UD-1.4 Promote and facilitate Urban Village residential area design principles.
- UD-1.5 Design and develop public and quasi-public buildings and uses utilizing Urban Village principles.

Goal Area UD-2: Overall Community Appearance

GOALS

- A Unique Community Image
- Attractive Neighborhoods and Districts
- Attractive and Memorable Public Streets

POLICIES

- UD-2.1 Utilize Urban Village design concepts in neighborhood revitalization programs.
- UD-2.2 Maintain and enhance the unique community appearance of Merced.

Chapter 7—Open Space, Conservation & Recreation

Goal Area OS-1: Open Space for the Preservation of Natural Resources

GOALS

- Maintainance of Merced's Biological Resources
- A High-Quality, Expanding Urban Forest
- Preservation of Scenic Corridors and Resources
- Improvement and Enhancement of Water Quality

POLICIES

- OS-1.1 Identify and preserve wildlife habitats which support rare, endangered, or threatened species.
- OS-1.2 Preserve and enhance creeks in their natural state throughout the planning area.
- OS-1.3 Promote the protection and enhancement of designated scenic routes.
- OS-1.4 Improve and expand the City's urban forest.
- OS-1.5 Preserve and enhance water quality.

Open Space, Conservation & Recreation—Continued

Goal Area OS-2: Open Space for the Managed Production of Resources

GOAL

- Protection of Regional Agricultural Resources

POLICIES

- OS-2.1 Protect agricultural areas outside the City's SUDP from urban impacts.
- OS-2.2 Relieve pressures on converting areas containing large concentrations of "prime" agricultural soils to urban uses by providing adequate urban development land within the Merced City SUDP.

Goal Area OS-3: Open Space for Outdoor Recreation

GOALS

- High Quality Recreational Open Space
- Adequate Public Recreation Facilities
- Comprehensive Urban Trail and Bike Path System

POLICIES

- OS-3.1 Provide high-quality park and open space facilities to serve the needs of a growing population.
- OS-3.2 Maintain and expand the City's Bikeway and Trail System.
- OS-3.3 Maintain the City's existing high-quality open space facilities.
- OS-3.4 Develop a diverse and integrated system of park facilities throughout Merced.

Goal Area OS-4: Open Space for Public Health & Safety

GOAL

- A Safe Environment For Merced's Citizens

POLICY

- OS-4.1 Preserve open space areas which are necessary to maintaining public health and safety.

Goal Area OS-5: Conservation of Resources

GOALS

- Conservation of Water Resources
- Preservation and Protection of Soil Resources

POLICIES

- OS-5.1 Promote water conservation throughout the planning area.
- OS-5.2 Protect soil resources from the erosive forces of wind and water.

Chapter 8—Sustainable Development

Goal Area SD-1: Air Quality

GOALS

- Clean Air with Minimal Toxic Substances and Odor
- Clean Air with Minimal Particulate Content
- Effective and Efficient Transportation Infrastructure
- Coordinated and Cooperative Inter-Governmental Air Quality Programs

POLICIES

- SD-1.1 Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Merced.
- SD-1.2 Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.
- SD-1.3 Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment.
- SD-1.4 Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.

Sustainable Development—Air Quality—Continued

SD-1.5 Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs.

SD-1.6 Reduce emissions of PM₁₀ and other particulates with local control potential.

Goal Area SD-2: Cultural Resources

GOALS:

- A Diverse And Rich Historic and Cultural Resource Environment
- A Long-Term Community Historic Preservation/Improvement Program

POLICIES:

SD-2.1 Identify and preserve the City's archaeological resources.

SD-2.2 Identify and preserve the City's historic and cultural resources.

Goal Area SD-3: Energy Resources

GOAL

- Sustainable Energy Resource Use in the City of Merced

POLICIES

SD-3.1 Promote the use of solar energy technology.

SD-3.2 Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development.

Chapter 9—Housing

Goal Area H-1: New Affordable Housing Construction

GOALS

- Increase The Stock of Affordable Housing for Very Low, Low, and Moderate Income Households
- Encourage A Mix of Housing Throughout the City To Meet The Needs of Different Income Groups
- Encourage The Construction of Housing and Facilities To Meet Special Needs, Including Farmworkers, Homeless, Large Families, Seniors, And People With Physical Or Mental Disabilities

POLICIES

H-1.1 Support increased densities in residential areas.

H-1.2 Review design standards to support affordable housing.

H-1.3 Develop and implement an Affordable Housing Ordinance.

H-1.4 Pursue joint development agreements.

H-1.5 Provide priority review and permitting for affordable housing projects.

H-1.6 Support the construction of second units.

H-1.7 Pursue State and Federal funds for new housing construction.

H-1.8 Support housing to meet special needs.

H-1.9 Continue the "Build-A-House" Project with Merced College.

Goal Area H-2: Housing Conservation and Rehabilitation

GOAL

- Ensure Quality Affordable Housing through the Conservation and Rehabilitation of the Existing Housing Stock

POLICIES

H-2.1 Continue the City's Housing Rehabilitation Loan Program.

H-2.2 Promote preventative maintenance and energy conservation in older housing units.

H-2.3 Pursue State and Federal funds to support conservation and rehabilitation.

H-2.4 Retain existing subsidized lower-income units.

Housing—Continued

Goal Area H-3: Housing Affordability

GOALS

- Increase Homeownership Opportunities for Low and Moderate Income Groups
- Provide Financial Assistance as Needed to Very Low and Low Income Renter Households

POLICIES

- H-3.1 Provide downpayment assistance to qualifying homebuyers.
- H-3.2 Work with the Housing Authority to continue and expand Section 8 Programs.
- H-3.3 Explore the potential for an experimental rental assistance program for the homeless.
- H-3.4 Coordinate with local agencies to provide assistance to the homeless.
- H-3.5 Pursue State and Federal funds to assist affordability efforts.

Goal Area H-4: City Coordination

GOALS

- Coordinate Innovative Housing Efforts with Private and Nonprofit Developers as well as Other Jurisdictions and City Departments
- Ensure accountability and success of the Housing Action Plan

POLICIES

- H-4.1 Establish an Affordable Housing Community Fund.
- H-4.2 Educate the public regarding affordable housing issues and programs.
- H-4.3 This policy was deleted by City Council action on 11/4/96.
- H-4.4 Support the City of Merced General Plan Update.
- H-4.5 Periodically review and evaluate the Housing Action Plan.
- H-4.6 Ensure that the City of Merced provides its fair-share of affordable housing.

Chapter 10—Noise

GOALS

- A Quiet Environment
- Sensitive Land Use Protected From Excessive Noise

POLICIES

- N-1.1 Minimize the impacts of aircraft noise.
- N-1.2 Reduce surface vehicle noise.
- N-1.3 Reduce equipment noise levels.
- N-1.4 Reduce noise levels at the receiver where noise reduction at the source is not possible.
- N-1.5 Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources.
- N-1.6 Mitigate all significant noise impacts as a condition of project approval for sensitive land uses.

Chapter 11—Safety

Goal Area S-1: Disaster Preparedness

GOAL

- General Disaster Preparedness

POLICY

- S-1.1 Develop and maintain emergency preparedness procedures for the City.

Safety—Continued

Goal Area S-2: Seismic Safety

GOAL

- Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity

POLICIES

- S-2.1 Reduce the potential danger from earthquake and seismic-related activity from existing buildings where necessary.
- S-2.2 Encourage the improvement of all public facilities and infrastructure, such as natural gas, fuel, sewer, water, electricity, and railroad lines and equipment, with up-to-date seismic safety features.
- S-2.3 Restrict urban development in all areas with potential ground failure characteristics.

Goal Area S-3: Flooding

GOAL

- A City Free From Other Than Street Flooding

POLICIES

- S-3.1 Endeavor to remove most of the existing City, and the vast majority of the SUDP, from the 100-year floodplain.
- S-3.2 Maintain essential City services in the event of flooding or dam failure.

Goal Area S-4: Fire Protection

GOAL

- Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression

POLICIES

- S-4.1 Promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community.
- S-4.2 Maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.

Goal Area S-5: Airport Safety

GOAL

- A Safe Airport Environment Both Above and On the Ground

POLICIES

- S-5.1 Continue to protect approach areas and control zones for both existing and future runway systems through land use regulations and property acquisition where necessary.
- S-5.2 Prevent the encroachment of potential hazards to flight within the Airport's airspace.

Goal Area S-6: Crime

GOAL

- Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community

POLICIES

- S-6.1 Provide superior community-based police services.
- S-6.2 Provide services and personnel necessary to maintain community order and public safety.

Goal Area S-7: Hazardous Materials

GOAL

- Hazardous Materials Safety for City Residents

POLICIES

- S-7.1 Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.
- S-7.2 Ensure that hazardous materials are cleaned up before a property is developed or redeveloped.



Chapter 1

Introduction

1.1 WHAT WILL MERCED BE LIKE IN THE YEAR 2015?

It has been projected that twenty million people will be added to California's population by the year 2015. A significant portion of this population growth is expected to find its way into the San Joaquin Valley. Merced, like many other Valley communities, must be prepared to respond to the challenges and changes that population growth pressures will bring to this area.

Currently, Merced residents enjoy Merced's compact size, its small-town feeling, surrounding agricultural and open space land, the parks and historic structures, the beautiful tree-lined streets, the creekside bikeways, etc. These are the result of much effort on the part of concerned citizens and appointed and elected officials. These people looked at what the City was and decided what they wanted it to become. This is "planning"-and what the *Merced Vision 2015 General Plan* is all about. It builds on the efforts and visions of the past and states the aspirations for the future. The challenge, laid down by those who have preceded us, is to guide our City's growth into the new millennium in such a manner that our children and our

children's children may enjoy the same high quality of life that we enjoy today.

The *Merced Vision 2015 General Plan* envisions a growing community that preserves much of its small town flavor and social setting, a city that has an improved economy, adequate public services and cultural facilities, and a good overall quality of life for its residents. In 2015, people will have various transportation options. Parks and open spaces will link residential, commercial, and employment centers in such a manner as to provide an attractive pedestrian and bicycle alternative to driving. Convenient public transit systems will serve these areas as well.

The future of Merced includes the 10th University of California Campus and connection to an improved rail system. The UC campus will provide a major educational resource to the City and its residents, and the improvements to the rail and highway systems will link Merced with all of the major metropolitan areas of the state. The *Merced Vision 2015 General Plan* anticipates these developments and contains policies and strategies for maximizing the benefits that they will bring to our community.

1.2 WHAT IS A GENERAL PLAN?

A General Plan for a city functions much as a constitution for a nation. It is a guiding framework for decisions. The General Plan is a statement of the community's vision of its long-term or ultimate physical form.

Preparing the General Plan can be viewed as an activity which sharpens and focuses the many concerns of citizens within the community and provides structure by which these often conflicting concerns can be forged into a common vision for the future. By focusing attention on issues facing the community and placing them in an expanded time frame, the general plan helps citizens see their community as a complex system--a living entity that grows and responds to problems and opportunities facing the community.

Preparing a general plan serves the following purposes:

- To enable the Planning Commission and City Council to reach agreement on long-range development policies;
- To provide a basis for judging whether specific private development proposals and public projects are consistent with these policies;
- To allow other public agencies and private developers to design projects that are consistent with City policies, or to seek changes in these policies through the General Plan Amendment process;
- To identify the community's environmental, social, and economic goals;
- To record the City's policies and standards for the maintenance and

improvement of existing development and the location and characteristics of future development;

- To provide citizens with information about their community and with opportunities to participate in the local planning and decision-making process.

1.3 LEGAL REQUIREMENTS

California State law (Government Code Section 65302) requires all cities and counties to have an adopted general plan. This General Plan serves as the blueprint for the community's future growth and development. The General Plan must address certain issues which are directly related to and influence land use decisions. The City Council adopts the General Plan by ordinance as a legal document.

The law specifies that each general plan address seven issue areas, known as "elements," which must be consistent with each other. The seven required elements are: 1) Land Use; 2) Circulation; 3) Open Space; 4) Conservation; 5) Housing; 6) Noise; and 7) Safety. *Table 1.1* in Section 1.4.1 shows where each State general plan requirement is located within the *Merced Vision 2015 General Plan*.

The plan must analyze issues of importance to the community, set forth policies for conservation and development, and outline specific programs or actions for implementing these policies. City actions, such as those relating to the approval of development projects, zoning and subdivision ordinances, specific plans, and capital

improvements, must be consistent with the General Plan.

The General Plan shall be utilized as a whole. One section is not to be used at the expense of others, but all of them shall be used together, with flexibility. Employed in this way, the General Plan becomes a powerful tool for ensuring consistency of City actions, while remaining responsive to the changing needs of the times. When optional elements are added to the general plan, they have the same status as a mandated element, and no single chapter or subject supersedes the other.

1.3.1 Maps and Diagrams

The Land Use Diagram is an integral part of the General Plan. The diagram graphically expresses the Plan's development policies by showing the desired arrangement and general location of land uses. The diagram is required to be consistent with the General Plan text under California Government Code Section 65302. To be useful to City officials, staff, and the public, the Land Use Diagram must allow anyone who uses the Plan to reach the same conclusion about the designated use of any property covered by the plan.

Figure 3.1 is the City's Land Use Diagram and can be found in the map pocket at the back of this document. It presents the general distribution of the uses of land within the City of Merced and its SUDP (or growth boundary). The word "Diagram" is distinguished from "Map" in the context of a California Attorney General Opinion (67 OPS.CAL.ATTY. GEN.75 (3/7/84)) to provide a certain limited degree of

flexibility in applying the Land Use Designations (described in Sections 3.3.3 and 3.9 of the Land Use Chapter) to specific parcels of land. A "diagram" shows the approximate arrangement of and relationships between land uses rather than the precise location and detailed boundaries of land uses which a "map" (like a zoning map) would show.

The Land Use Diagram and text together specify the number of people and dwelling units per net acre of land for each property planned for residences and the building intensity for all other proposed development. This building intensity is expressed in terms of a floor area ratio, which is the gross floor area permitted on a site divided by the total net land area of the lot. Other pertinent features of the Land Use Diagram include the locations of existing and proposed parks, public schools, and other public facilities such as fire stations.

General plans also must contain a circulation element. This element shows the location and extent of existing and proposed thoroughfares, transportation routes, terminals, and other local public utilities and facilities, and correlates them with the land use element. Maps are needed to show location. Merced's Circulation Plan (*Figure 4.1*) shows current and proposed arterials, collector streets, and local streets as well as bikeways and rail lines (on separate maps). This roadway system has been tested against the planned level proposed in this plan and has been found to be adequate.

Together, the Land Use Diagram and Circulation Plan graphically show the managed growth of the City for the next 20 years. The General Plan also contains other maps and diagrams that show various features of Merced and help illustrate various goals and policies of the General Plan.

1.3.2 Goals, Policies and Actions

The heart of the General Plan is the set of integrated and internally consistent “Goals,” “Policies,” and “Implementing Actions” in each chapter. *Goals* are long range; they state finished conditions--the community’s vision of what should be done and where. *Policies* and *Implementing Actions* are short to intermediate range. *Policies* state the City’s clear commitment on how these *Goals* will be achieved. *Implementing Actions* carry out the *Policies* and are

specific, such as defining land areas to be rezoned or bicycle lanes to be added.

Together, *Policies* and *Implementing Actions* establish who will carry out the activities needed to meet the *Goals* as well as how and when the *Goals* will be met. *Policies* and *Actions* guide day-to-day decision-making, so there is continuing progress toward the attainment of *Goals*. Some *Policies* and *Actions* may need to be re-examined and revised during the course of the Plan. While not changing the basic desirability of the *Goals*, *Policies*, and *Actions* in the long term, they will be carried out when suitable resources are available.

An example of how the *Goals*, *Policies*, and *Implementing Actions* are set forth in this plan can be seen below along with a definition of each:

Goal Area I-1: Definitions of Goals, Policies, and Implementing Actions

GOALS

- Goal = A General, Overall, and Ultimate Purpose, Aim, or End Toward Which the City Will Direct Effort

POLICIES

- I-1 Policy = A specific statement of principle or guiding action which implies clear commitment. A general direction that the City shall follow in order to meet its goals by undertaking specific action programs. It is assumed that each policy statement is preceded by the phrase, “The City shall...”

Policy I-1

A Specific Statement of Principle or Guiding Action.

Implementing Actions:

- 1.1.a Implementing Action = An action, activity, or strategy carried out in response to adopted Policy to achieve a specific Goal.

Following each Implementing Action is a statement clarifying its meaning or explaining the specific manner in which it will be carried out.

1.4 ORGANIZATION OF THE PLAN

The *Merced Vision 2015 General Plan* is an update, expansion, and reorganization of the 1981 General Plan. This general plan consists of three separate documents:

- 1) *Merced Vision 2015 General Plan Executive Summary*;
- 2) *Merced Vision 2015 General Plan*; and
- 3) *Merced Vision 2015 General Plan Program Environmental Impact Report (EIR)*,

The *Merced Vision 2015 General Plan Executive Summary* provides a brief overview of the general plan with a summary of goals and policies (and implementing actions) for each subject area.

The *Merced Vision 2015 General Plan* document is organized into eleven different chapters covering all the elements required by State law. Each chapter consists of text, diagrams, and other illustrations relating to an aspect of the City's growth and development. The text explains the issues and discusses them, then states Goals, Policies, and Implementing Actions. The seven mandated elements are:

- Land Use (Chapter 3)
- Circulation (Chapter 4)
- Open Space (Chapter 7)
- Conservation (Chapter 7)
- Housing (Chapter 9)
- Noise (Chapter 10)
- Safety (Chapter 11)

Table 1.1 shows where each State general plan requirement is located within these chapters.

Other issues are important to the City of Merced but are not required to be separate elements under State law. These issues--Urban Expansion (Chapter 2), Public Facilities (Chapter 5), Urban Design (Chapter 6), and Sustainable Development (Chapter 8)--are covered in additional chapters of the *Merced Vision 2015 General Plan*.

The Land Use, Open Space, and Conservation Elements were last comprehensively updated in 1981. The Circulation Element was substantially amended in 1993, but still needed additional work to meet changing land use needs. These four elements, therefore, have been comprehensively updated and expanded with this general plan.

The Housing Element was comprehensively updated (and certified by the State Housing and Community Development Department) in 1992, the Noise Element in 1993, and the Safety Element in 1995. Thus, these elements have simply been reorganized and edited to match the format of the other general plan chapters and have not experienced any significant modifications. (The one exception is the Noise Element where information relating to Castle AFB noise impacts have been eliminated due to the base's closure.)

The *Merced Vision 2015 General Plan Program EIR* documents how the proposed plan will impact the environment in the sixteen subject areas required by the California Environmental Quality Act (CEQA). The EIR also evaluates three different growth alternatives and proposes mitigation measures to reduce environmental impacts.

1.4.1 Plan Contents

The *Merced Vision 2015 General Plan* is organized into eleven chapters which address the following subjects:

- **Chapter 1--Introduction** provides the context within which the Plan has been developed and describes its organization.
- **Chapter 2--Urban Expansion** sets forth the direction of future City growth. The goals, policies, and actions of this Chapter guide future urban growth away from important agricultural lands in the area and provide a framework within which future urban expansion policies can be developed for the UC Merced campus.
- **Chapter 3--Land Use** contains the basic land use policies which will be used to guide residential, commercial, and industrial development in the City. The "Urban Village" concept of mixed-use and circulation-friendly development is established as the City's primary new growth pattern in this chapter.
- **Chapter 4 -- Transportation and Circulation** establishes policies and programs for development of an integrated municipal circulation and transportation system that accommodates all modes of transit (automobiles, bicycles, rail, air, etc.).
- **Chapter 5 -- Public Services and Facilities** addresses the public service and facility needs of an expanding municipal population and identifies strategies for meeting those needs.
- **Chapter 6--Urban Design** provides ideas, in addition to policies, on how urban design concepts can be applied

in Merced to promote sustainable development and to maintain a high quality of life.

- **Chapter 7 -- Open Space, Conservation, and Recreation** contains goals and policies for the development and maintenance of public and private open space areas in the City and for the future expansion of the City's park system.
- **Chapter 8--Sustainable Development** addresses the approaches for preserving the City's soil, water, wildlife, air, energy, and historic/cultural resources.
- **Chapter 9--Housing** contains policies and programs for assuring that safe and adequate housing is available to City residents.
- **Chapter 10--Noise** contains policies and programs focused on reducing urban noise levels.
- **Chapter 11--Safety** contains policies and programs addressing potential safety issues including seismic events, flooding, crime, fire, hazardous materials, and others.



Table 1.1

Relationship of General Plan Chapters to State-Mandated Elements

MANDATED ELEMENTS	GENERAL PLAN	
	Section	Pages
LAND USE ELEMENT (Chapter 3)		
Distribution of Housing, Business, & Industry	Figure 3.1	Map Holder
Distribution of Agricultural Lands & Open Space	Figure 3.1	Map Holder
Standards of Population Density and Building Intensity	3.3.3; 3.9	3-6; 3-63
Land Use Diagram	Figure 3.1	Map Holder
Distribution of Recreation Facilities, Educational Facilities, and Public Buildings and Grounds	Figure 3.1	Map Holder
Flood Areas	11.3.4; Figures 11.5a & b	11-19; 11-22 & 11-23
Future Solid and Liquid Waste Facilities	5.2.6	5-8
Mineral Resources	Not Applicable	Not Applicable
Timberland Preserve Zone Lands	Not Applicable	Not Applicable
Implementation	3.4.4; 3.5.6; 3.6.3	3-14; 3-36; 3-50
CIRCULATION ELEMENT (Chapter 4)		
Description of Existing System	4.3	4-6
Maps of Existing and Proposed Systems	Figure 4.1	Foldout Map (after 4-2)
Description of Proposed System	4.3; 4.4; 4.8.3	4-6; 4-24; 4-91
Major Thoroughfares and Transportation Routes	4.3.3; 4.3.4	4-8; 4-13
Terminals and Local Public Utilities and Facilities	4.3; 5.2.9	4-6; 5-13
Implementation	4.6	4-41
OPEN SPACE ELEMENT (Chapter 7)		
Open Space for Preservation of Natural Resources	Goal Area OS-1	7-16
Open Space for Managed Production of Resources	Goal Area OS-2	7-23
Ground Water Recharge	5.3.3; 7.6.6	5-16; 7-35
Agricultural Lands	7.2.1; 8.2.1; 8.5.1	7-2; 8-2; 8-34
Open Space for Outdoor Recreation	Goal Area OS-3	7-25
Scenic, Historic, and Cultural Values	Goal Area OS-1; 8.2.6	7-16; 8-15
Trails, Links, and Park and Recreation Access	4.3.8; 7.2.2;	4-21; 7-3
Open Space for Public Health and Safety	Goal Area OS-4	7-31
Integration with California Recreational Trails System	Not Applicable	Not Applicable
Action Program/Implementation	7.5; 7.7; 8.4	7-16; 7-36; 8-21
CONSERVATION ELEMENT (Chapter 7)		
Forests, Rivers, and Wildlife	7.2.3; 8.2.3	7-7; 8-6
Water	5.2.3; 7.2.4; 8.2.2	5-6; 7-10; 8-3
Soils	8.2.1; 8.5.1	8-2; 8-34
Flood Control	5.2.5; 11.3.4	5-8; 11-19
Archeological Resources	7.2.6; 8.2.6	7-11; 8-15
Harbors and Fisheries	Not Applicable	Not Applicable
Minerals	Not Applicable	Not Applicable
Air Quality	8.2.4; 8.5.2	8-9; 8-41
Implementation	7.5; 8.4	7-16; 8-21

Table 1.1 (Continued)

MANDATED ELEMENTS	GENERAL PLAN	
	Chapter/Section	Pages
HOUSING ELEMENT (Chapter 9)		
Assessment of Immediate Housing Needs	9.2.5	9-29
Projected New Construction Needs	9.2.5	9-29
Potential Housing Sites	9.2.6	9-31
Map of Housing Sites	9.2.6	9-31
Governmental Constraints	9.2.7	9-38
Non-governmental Constraints	9.2.7	9-38
Energy Conservation	9.2.8	9-47
Quantified Objectives	9.3	9-77
Implementation	9.3; 9-4	9-58; 9-78
Public Participation	9.1.4	9-3
Progress on Housing Programs	9.2.9	9-48
NOISE ELEMENT (Chapter 10)		
Noise Sources	10.3	10-11
Extent of Noise Problems in Community	10.3	10-11
Existing and Projected Noise Contours	Figure 10.1; 10.3;	10-3; 10-11;
	10.4.5	10-30
Noise Attenuation Methods	10.1.2	10-1
Implementation	10.2	10-8
SAFETY ELEMENT (Chapter 11)		
Seismic and Geologic Hazards	11.3.1	11-11
Slope Instability/Subsidence	11.3.2	11-14
Seiche and Dam Failure	11.3.3	11-17
Flooding	11.3.4	11-19
Fire Hazards and Peak Water Supply	11.3.5	11-25
Emergency Response and Evacuation	11.1.2; 11.3.5	11-1; 11-25
Hazardous Materials	11.3.8	11-36
Implementation	11.2	11-3



1.5 SPECIFIC GOALS AND VISIONS

The *Merced Vision 2015 General Plan* aims to achieve the following Goals, organized by chapter:

1.5.1 Urban Expansion

- ◆ A Compact Urban Form
- ◆ Preservation of Agriculturally Significant Areas
- ◆ Efficient Urban Expansion

1.5.2 Land Use

Residential & Neighborhood Development

- ◆ A Wide Range of Residential Densities and Housing Types
- ◆ Preservation and Enhancement of Existing Neighborhoods
- ◆ Pedestrian-Friendly Residential Environments
- ◆ A Sense of Community

Economic Development

- ◆ Increased Employment Opportunities for the Citizens of Merced
- ◆ A Diverse and Balanced Economy
- ◆ High Quality Industrial Areas
- ◆ Ready Access to Commercial Services Throughout the City
- ◆ A Revitalized Downtown Area

Urban Growth and Design

- ◆ Living Environments which Encourage People to Use a Variety of Transportation Alternatives
- ◆ Self-sustaining, Mixed-Use, Pedestrian-Friendly Villages

1.5.3 Transportation and Circulation

Streets and Roads

- ◆ An Integrated Road System that is Safe and Efficient

- ◆ A Circulation System that is Convenient and Flexible
- ◆ A Circulation System that Minimizes Adverse Impacts upon the Community

Alternative Transportation

- ◆ An Efficient and Comprehensive Public Transit System
- ◆ A Comprehensive System of Safe and Convenient Bicycle Routes
- ◆ A Comprehensive System of Safe and Convenient Pedestrianways
- ◆ Air and Rail Systems that Provide Safe and Convenient Service to the Community

1.5.4 Public Services and Facilities

- ◆ Maintenance and Improvement of Merced's Existing Infrastructure.
- ◆ New Development Which Includes a Full Complement of Infrastructure and Public Facilities
- ◆ Efficient and Cost-Effective Public Service Delivery
- ◆ A Community Reasonably Safe From Crime and Fire
- ◆ Adequate Water, Wastewater, and Storm Drainage Systems
- ◆ Adequate School Facilities for All Students in the Merced Urban Area
- ◆ Support for Cultural and Community Services that Improve and Maintain the Quality of Life for the Residents of Merced

1.5.5 Urban Design

- ◆ Integrated Urban Form
- ◆ A Unique Community Image
- ◆ Transit Oriented Community Design
- ◆ Attractive Neighborhoods and Districts

1.5.6 Open Space, Conservation, and Recreation

- ◆ Maintenance of Merced's Biological Resources
- ◆ A High-Quality, Expanding Urban Forest
- ◆ Preservation of Scenic Corridors and Resources
- ◆ Improvement and Enhancement of Water Quality
- ◆ Protection of Regional Agricultural Resources
- ◆ Adequate Public Recreation Facilities
- ◆ Comprehensive Urban Trail and Bike Path System

1.5.7 Sustainable Development

- ◆ Clean Air With Minimal Toxic Substances and Odor
- ◆ Coordinated and Cooperative Inter-Governmental Air Quality Programs
- ◆ A Diverse and Rich Historic and Cultural Resource Environment
- ◆ Sustainable Energy Resource Use in the City of Merced

1.5.8 Housing

- ◆ Increase the Stock of Affordable Housing
- ◆ Encourage a Mix of Housing Throughout the City to Meet the Needs of Different Income Groups
- ◆ Conservation and Rehabilitation of the Existing Housing Stock
- ◆ Increase Homeownership Opportunities
- ◆ Coordinate Innovative Housing Efforts

1.5.9 Noise

- ◆ A Quiet Environment
- ◆ Sensitive Land Uses Protected From Excessive Noise

1.5.10 Safety

- ◆ General Disaster Preparedness
- ◆ Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity
- ◆ A City Relatively Free From Flooding
- ◆ Fire and Hazardous Material Safety
- ◆ A Safe Airport Environment Both Above and On the Ground
- ◆ Reduced Criminal Activity and an Increased Feeling of Safety and Security in the Community

1.6 THE GENERAL PLAN PROCESS

The City of Merced began formally looking toward its future growth and development beginning in 1959 with the adoption of its first general plan. Comprehensive general plan updates took place in 1968 and 1981.

In 1990, the *Merced 2030* process (Section 2.2.2) looked 40 years into the future and foresaw a community growing to the north and northeast around Lake Yosemite in a series of self-contained "villages." In 1992, the *North Merced Conceptual Land Use Plan* sketched out a series of these villages for a 20-year study area. The decisions made during these two long-range planning efforts guided the preparation of the *Merced Vision 2015 General Plan*.

The General Plan process itself began in August 1992, with the formation of the City of Merced General Plan Citizens Advisory Committee. This committee of 20 to 25 members is made up of ordinary citizens representing a broad cross-section of the community. These citizens

have devoted much time and effort to reviewing the General Plan through its various stages of development and offering their advice on how certain issues should be addressed.

In addition, public forums were held at various stages in the process to give all citizens of the community the opportunity to express their views on general plan issues and to offer advice on which issues needed to be addressed as a high priority.

Other highlights of the process include:

- In August 1992, the General Plan Technical Advisory Committee was formed, made up of staff representatives from various City, County, and State agencies, to provide input on the plan;
- Updates of the Housing, Noise, and Safety Elements in 1992, 1993, and 1995 respectively are completed as well as an interim update of the Circulation Element in 1993;
- A series of public forums to discuss the issues are held, starting in October 1993 and ending in February 1997;
- Several joint City Council/Planning Commission study sessions are held starting in January 1994 and ending in February 1997;
- In 1994, *The City of Merced Commercial and Industrial Land Study (1994-2010)*, an important background study to the general plan, is completed and undergoes extensive public review;
- In July 1996, draft *Merced Vision 2015 General Plan* documents and the Program Environmental Impact Report (EIR) are completed and made available to the public;
- From July 1996 to March 1997, the *Merced Vision 2015 General Plan* is reviewed by various City and County decision makers, state and federal agencies, civic and cultural organizations, business groups, and ordinary citizens;
- In March and April 1997, public hearings before the Planning Commission and City Council are held.

The result of this effort is the *Merced Vision 2015 General Plan*, built upon the ideas of Merced's residents and looking towards a bright future of growth and prosperity, new opportunities, and new challenges.

1.7 ASSUMPTIONS AND CONSIDERATIONS

The *Merced Vision 2015 General Plan* relies on several assumptions regarding existing and anticipated future conditions within Merced's growth area, otherwise known as the Specific Urban Development Plan (SUDP). Specifically, these assumptions are:

- 1) The 10th University of California (UC) campus will be developed in the vicinity of Lake Yosemite on the northeastern edge of the Merced growth boundary or SUDP.
- 2) Future population growth in the Merced growth area will approach 145,000 by the year 2015 and 240,000 by the year 2035.
- 3) In order to accommodate efficient levels of service delivery, regional urban development (residential, commercial and industrial) will be focused within the Merced City's growth area (SUDP) and not in the

unincorporated areas surrounding the City.

- 4) The average household size in the SUDP will remain at approximately three people per dwelling unit.
- 5) To accommodate the future growth of the City's SUDP, the plan will need to accommodate approximately 47,000 housing units (roughly double the number in the urban area in 1995).
- 6) To accommodate future growth, sufficient land area will need to be set aside to support approximately 38,000 employment opportunities within the City's growth area.
- 7) Projected growth estimates will occur within the planning time-frames (20 years).

If some of these events do not occur within the next 20 years, the General Plan goals and policies will need to be reevaluated in light of changing conditions.

1.8 PLANNING AGENCIES

1.8.1 Planning Agency Organization

The *Merced Vision 2015 General Plan* was prepared by the City's Future Planning Division, which is a division of the Development Services Department. The Development Services Department is made up of Future Planning, Current Planning/One-Stop Application Processing, Engineering, and Inspection Services. The Future Planning Division is under the direction of the City Planner, who reports directly to the Development Services Director/ Assistant City Manager.

Since the plan addresses many different issues, it has been developed in close

cooperation with other City departments, (especially the Engineering and Leisure Services divisions), Merced County, the Merced County Association of Governments (MCAG), and many other local, state, and federal agencies.

1.8.2 Regional Planning Organizations

- *Merced County Association of Governments (MCAG)*

MCAG was established in 1967 by a joint powers agreement among the Cities of Atwater, Dos Palos, Gustine, Livingston, Los Banos, Merced, and the County of Merced. Its goal is to provide and promote interjurisdictional planning. The agency's primary focus is regional transportation planning and advocacy for highway, bikeway, and transit projects. Other services include community planning, environmental planning, and providing technical planning services to member jurisdictions. MCAG's Governing Board, comprised of representatives from each city and the County, also approves policies and programs for the operation of the County's landfills and source reduction and recycling programs.

- *San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD)*

The SJVUAPCD, formed in 1991, has jurisdiction over air quality matters in the San Joaquin Valley Air Basin, made up of eight member counties (San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and Kern). The district oversees the regulation of stationary sources of pollution (industrial processes, etc.) and the implement-

ation of transportation control measures aimed at reducing pollution from mobile sources (automobiles, etc.). The district also adopts air quality attainment plans, reviews local agency California Environmental Quality Act (CEQA) documents, and suggests mitigation measures to reduce air quality impacts. In 1994, the district adopted *Air Quality Guidelines for General Plans* to encourage local communities to adopt air quality policies as part of their general plans.

- *Castle Joint Powers Authority (JPA)*

The Castle JPA was formed in 1991 by Merced County and the cities of Atwater and Merced as a multi-jurisdictional authority responsible for planning the civilian reuse and development of Castle Air Force Base and for managing closure and post-closure activities. The JPA consists of two appointed members from each of the three governing bodies of Atwater, Merced, and Merced County with the chairmanship rotating on an annual basis.

- *Local Agency Formation Commission (LAFCO)*

LAFCO's were created by the State in 1963 in order to oversee the growing complexity of overlapping, local governmental jurisdictions. Each county in the State has its own LAFCO. LAFCO's are responsible for coordinating logical and timely changes in local government boundaries (annexations), conducting special studies which review ways to reorganize and streamline governmental structure, and preparing "Spheres of Influence" or ultimate

growth boundaries (see Section 2.3.2) for each city and special district in each county. In Merced County, LAFCO is made up of five members--two representatives chosen on a rotating basis from among the six cities in the county, two members of the Merced County Board of Supervisors, and one public member chosen by the other four members.

- *Merced Irrigation District (MID)*

MID is a special district organized and operated under the California Water Code and locally controlled by a Board of Directors elected by voters living within the district boundaries. The district boundaries encompass approximately 250,000 acres in eastern Merced County, including the cities of Merced, Atwater, and Livingston, within a larger Sphere of Influence of 500,000 acres. Its primary function is to supply irrigation water to lands in the district as well as deal with drainage, power generation, flood control, and recreation issues.

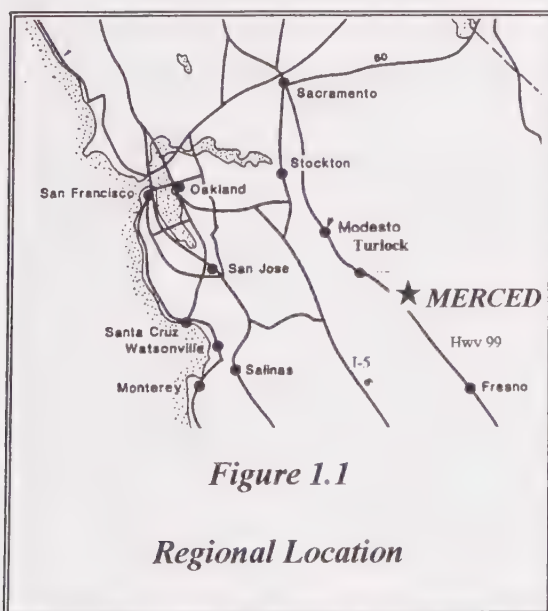
- *Caltrans, District 10*

The mission of the California Department of Transportation (Caltrans) is to "provide leadership on major transportation issues while working with other governmental jurisdictions to plan, develop, manage, and maintain a safe and efficient transportation system." The state is divided into twelve planning districts. Merced County is in District 10, which also includes the San Joaquin Valley counties of San Joaquin and Stanislaus, five mountain counties (Alpine, Amador, Calaveras, Mariposa, and Tuolumne), and Solano County in the Bay Area.

1.9 MERCED IN THE REGION

Located in the heart of the San Joaquin Valley, the City of Merced is the Merced County seat as well as the retail commercial center for the surrounding region. Known as the “Gateway to Yosemite” because of its historic and current status as a stopping place for visitors on their way to Yosemite, Merced is just 80 miles from the national park.

Merced is approximately 150 miles southeast of San Francisco and is one of a chain of cities located along State Highway 99. Highway 99 is one of the two main north-south arteries connecting Southern California to the Pacific Northwest region. The City of Modesto is located 40 miles, Stockton 65 miles, and Sacramento 100 miles to the north of Merced along Highway 99. The City of Fresno is 55 miles and Bakersfield is 165 miles to the south along Highway 99.



1.9.1 The San Joaquin Valley & Merced County

The City of Merced is located near the geographic center of the County of Merced which is located in California's San Joaquin Valley (part of the greater Central Valley) along the western slope of the Sierra Nevada mountain range. The County of Merced is bounded on the north by Tuolumne and Stanislaus Counties, on the east by Mariposa County, on the south by Fresno and Madera Counties, and on the west by Santa Clara and San Benito Counties. Merced County, covering about 1,031 square miles, had a 1995 population of 202,789.

1.9.2 General Physical Setting

The City of Merced's 1996 city limits are generally bounded on the west by State Highway 59 and the El Capitan Canal, and to the east by McKee Road. The northerly City limits include Fahrens Park and Merced College, while the southerly City limits are generally bounded by the Merced Municipal Airport and Childs Avenue, and by State Highway 99 in Southeast Merced. In 1995, the City of Merced covered 16.96 square miles and had a population of 61,712.

The City of Merced is approximately four miles long from north to south and four miles at its widest point from east to west. The northern portion of the City is characterized by gently rolling terrain, while the southerly portion is relatively flat. The northern, western, and eastern portions of the City contain a number of creeks and canals including Bear Creek, Black Rascal Creek, Fahrens Creek, and Cottonwood Creek. Lake Yosemite is located approximately three miles north

and east of the City. The City of Atwater and Castle Airport Aviation and Development Center are located approximately four miles northwest of the City.



Main Street—circa 1915

1.9.3 Historic Setting

In 1994, the City of Merced celebrated “50 Years of Modern Planning” in the city. Planning of the city, however has a long tradition of visionary thinking dating back to the early 1870’s. From its humble origins on the banks of Bear Creek up to the present, the City of Merced has been endowed with leadership and a strong community commitment which has resulted in the development of a city that is seen by many as a model of how urban development should occur in the San Joaquin Valley.

Early development in the San Joaquin Valley was driven by the development of the Central Pacific Railroad. Today, most of the major cities in the Valley are located along this historic rail line. Transportation corridors were a major influence in the growth and development of San Joaquin Valley communities and Merced is no exception.

In 1871, Charles H. Huffman was locating townsites along the new railroad line. Huffman oversaw the laying out of the new city’s grid type street system oriented along the alignment of the new railroad line. As a result, the older parts of Merced between Bear Creek and the Central Pacific Railroad line are along a southeast/northwest trending angle.

Initial lot sales for the new city took place in early 1872, and within a few months several buildings were constructed or under construction. The general layout of the new city focused on the railway with the original El Capitan Hotel serving as a primary entry point into the City. In the 1870’s, the City served as an entry point to the gold mining industry of the region. Later, as Yosemite Valley became world renowned, Merced became an important gateway to Yosemite National Park.

Along with transportation, economics also played a major role in shaping the features and future of Merced. Perhaps one of the most profound influences on the design and growth of the City after its founding in 1871 was the relocation of the Merced County seat of government from Snelling to Merced. The Central Pacific Railroad offered four city blocks to the new county government for development of a new county courthouse.

The new courthouse, dedicated in 1875, was oriented towards the railroad line and connected to the railroad by Courthouse Avenue (now “N” Street) lined with palm trees. Early planners envisioned Courthouse Avenue and Huffman Avenue (“M” Street) as the main business section of the new city, but

development occurred on the less expensive lots near the tracks along Main and Front (16th) Streets.

Merced's commercial and industrial districts were well established by 1875. Commercial establishments located on the north side of Front Street with hotels, stables, and small stores situated on Main Street behind the Front Street business district. The railroad depot, warehouses, and other industrial buildings were located along the tracks. Water was supplied to this area by a large elevated water tank near Main and "M" Streets.

Merced had three distinctive residential districts after only three years of existence. Most of Merced's residences were located on 18th and 19th Streets between J and M Streets and on the eastern end of Main Street. The first prestige neighborhood in Merced was "Little Snelling," settled by former residents of the old county seat. Little Snelling was located south of the tracks across from the El Capitan Hotel, between N and O on 14th and 15th Streets and included elaborate homes.

Chinatown, a compact self-sustaining community, was located one block to the east of Little Snelling, but was built at a higher density and included a mix of homes and businesses and a Buddhist Temple (or Joss House). Early churches and school facilities were developed in the vicinity of the new courthouse. The new city grew rapidly in the ensuing years, reaching a population of 1,525 by 1880 and 2,009 by 1890.

By 1888, the city had a street light system, and Lake Yosemite was constructed and supplied the city with water by 1889. By 1896, electrical



power was being supplied to domestic and commercial customers by the Merced Falls Gas and Electric Company. The community's educational system was enhanced by the construction of Merced's first public high school in Courthouse Park in 1897.

Merced was incorporated as a sixth class charter city on April 1, 1889. The new city consisted of 1,700 acres bounded by Bear Creek to the north, G Street to the east, Childs Avenue to the south, and West Avenue to the west.

In the late 1890's, transportation again had a major impact on the urban design of Merced. The San Francisco and San Joaquin Valley Railroad was granted a right-of-way through Merced. The railroad was given the use of 24th Street in the hope that the competition would force the Southern Pacific to lower its exorbitant freight rates. A station was built along the newly laid tracks near K Street in 1896. The elevated road bed may have retarded growth in northern Merced by greatly reducing access to this area, which remained rural in character until the 1920's. The railroad later became part of the Atchison, Topeka, and Santa Fe in 1900.

After the turn of the century, growth in the city was relatively modest. The most significant residential development was the opening of the Bradley addition in 1903, located on an extension of 21st Street to the east of the canal which ran down G Street, a street that marked the eastern boundary of the original town plan. Large 10 to 20 acre parcels with large homes were characteristic of this area.

Improvements in public services and utilities initiated during this period include the establishment of a sewer system (1901), the replacement of boardwalks and dirt paths with concrete sidewalks (1903), the construction of a new county hospital (1903), the addition of paved streets (1906), and the establishment of 24-hour electric service (1907).



Main Street—circa 1930

Another significant transportation feature changed the growth characteristics of the city with the construction of the Yosemite Valley Railroad (1905-1907). The station was located off the end of Main Street in the present day Westgate Shopping Center while the roundhouse and support facilities were situated where Fremont School stands today. The

tracks, laid down the middle of R Street, may have impeded growth in the west end of Merced, which did not develop until after the removal of the tracks in 1946.

The choice of Merced as the headquarters of the new railroad brought jobs to the City, increasing the demand for goods and services, and may have been a factor in the surge of both commercial and residential development that took place prior to World War I.

During the 1920's, Merced's residential districts expanded west to the Yosemite Valley railroad tracks on R Street, east to G Street, and north to Bear Creek, filling in much of the area between the Santa Fe tracks and the creek. By 1930, Merced's population had increased to 7,066. With the opening of the Yosemite Highway (Highway 140) in 1926, 16th Street began to develop in response to increased automobile traffic. As a result, motels, restaurants, and automotive-related businesses were built along this stretch.

In the 1940's, Merced continued to change and grow, reaching a population of 10,000 in 1940. Significant residential growth occurred in Central and South Merced. Merced Airport and Merced Air Field (renamed Castle Air Field in 1947) in nearby Atwater were established in 1942. In 1944, the City's first Planning Commission was appointed. The City's first annexation since its incorporation in 1889 took place in 1946 with the addition of 480 acres east of G Street and south of Bear Creek.

The years following World War II brought more expansion and with it the need for more planning. The City

Charter was adopted in April 1949, the City adopted its first zoning ordinance in 1950, and its first general plan and redevelopment project (15th Street) in 1959. The City expanded to the east with the first annexation in the East Merced Industrial Area in 1957 as well as to the north with the first annexation north of Bear Creek. The first annexation south of Childs Avenue occurred in 1958 and in southeast Merced in 1954.

By 1960, the City's population had reached 20,000 and growth was beginning to boom in North Merced. Merced Junior College was established in 1962 and annexed in 1964. The Merced Mall opened in 1969 in the City's first planned development. Single-family residential growth occurred east of G Street and north of Olive.



Main Street—circa 1960

The City adopted its first major general plan update in 1968, which signaled a change from the previous mainly east-west growth orientation along Highway 99/16th Street to the north-south growth pattern seen today. This plan actually foresaw the need for a University of

California campus in the Valley and thought Merced would be competitive in attracting such a campus. Twenty-seven years later, the UC Regents finally agreed!

Another major change that would alter Merced's growth pattern also took place in the 1960's. In 1960, the elevated Highway 99 was constructed along 13th Street, effectively dividing South Merced from the downtown and creating three distinct sub-areas of Merced--1) North Merced, north of Bear Creek; 2) Central Merced, between Bear Creek and Highway 99; and 3) South Merced, south of Highway 99.

In 1971, a special census showed almost 27,000 people living in Merced. In 1973, the Airport Industrial Park was opened, Redevelopment Project Area No. 2 (Downtown) was established, and the Western Industrial Area was annexed. Throughout the 1970's and 1980's, the City's Creekside Bicycle Path system developed and Merced continued to grow.

By 1980, Merced's population reached 37,000. A second major general plan update was adopted in 1981. This effort established an official urban growth boundary that directed Merced's growth primarily to the north and south to avoid prime agricultural lands and areas subject to high flood levels to the City's east and west.

From 1980 to 1990, the City experienced a significant surge in residential construction activity, cumulating in the addition of 4,000 new dwelling units. Also during that ten-year period, Merced's Southeast Asian population

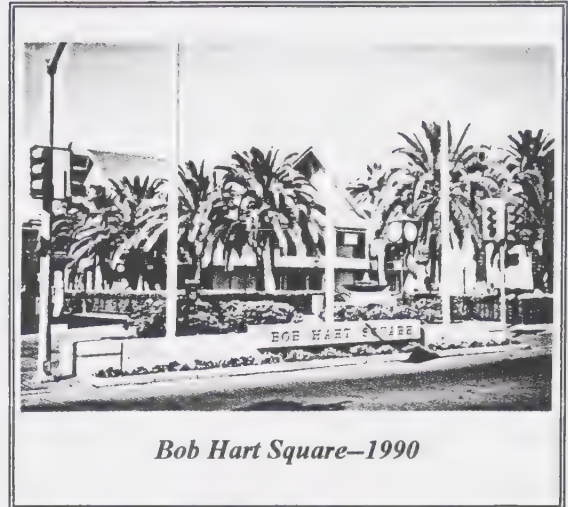
grew from 570 in 1980 to 8,000 in 1990, an increase of over 1,300 percent.

By 1990, the nationwide recession slowed down Merced's residential construction activity. However, the residential growth of the preceding decade precipitated a significant amount of commercial construction from 1992 to 1994. This included the addition of many new large discount stores, such as Costco, Walmart, Orchard Supply, etc.

In response to growth projections that anticipated a population of up to 250,000 people by 2030 (a five fold increase), the City embarked on a 40-year growth study, *Merced 2030: How Should We Grow?*, in 1990. (See Chapter 2, Section 2.2.2 for details.) As a result of this study, the City established a "village" growth pattern for the ensuing 40 years and directed growth to occur primarily to the north and northeast around Lake Yosemite.

In 1995, Merced's population stood at 61,712, and Lake Yosemite was selected as the site for the next University of California campus! This selection brings with it many challenges and opportunities, which will no doubt change the face of this community over the next 20 to 40 years.

Within this planning context, the *Merced Vision 2015 General Plan* establishes a vision of what that future Merced will be like. This plan is intended to maintain the foresight practiced by the early citizens and leaders of Merced which resulted in Merced being considered a "*Special Place*" by most residents and visitors.



Bob Hart Square—1990

1.10 ADMINISTRATION OF THE GENERAL PLAN

Once adopted, the General Plan does not remain static. State law permits up to four General Plan amendments per mandatory element per year (Government Code 65358[b]). Most amendments propose a change in the land use designation of a particular property.

As time goes on, the City may determine that it is necessary to revise portions of the text to reflect changing circumstances or philosophy. State law provides direction on how cities can maintain the plan as a contemporary policy guide by requiring the Planning Department to report annually to the City Council on "the status of the plan and progress in its implementation" (Government Code 65400[b]). Since the adoption of the 1981 General Plan, the City Planning Commission and City Council have held a "General Plan Annual Review" each May to serve this purpose.

In addition, the City should comprehensively review the General Plan every five years to determine whether it is still in

step with community values and conditions. The Housing Element (last updated in 1992) has a set schedule for review, generally every five years, based on State law. In 1996, the State revised this schedule and Merced's Housing Element will next need to be updated in 2001.

1.10.1 Amendments to the General Plan

Amendments to the General Plan may be initiated by the Planning Commission, City Council, City staff, or the general public. Detailed information on the procedure, timing, and costs for amendments is available from the City Planning Division. All amendments require application to the City and public hearings before the Planning Commission and City Council. Environmental review in accordance with the provisions of the California Environmental Quality Act also will be required for every General Plan Amendment.

California case law has found that any decision on a General Plan Amendment should be supported by findings of fact. These findings are the rationale for making a decision either to approve or deny a project. While specific findings may be applied on a project-by-project basis, at least the following standard findings should be made for each General Plan Amendment:

- 1) The proposed amendment is in the public interest. The proposed amendment is consistent and compatible with the rest of the General Plan.
- 2) The potential effects of the proposed amendment have been evaluated and have been determined not to be

detrimental to the public health, safety, or welfare.

- 3) The proposed amendment has been processed in accordance with the applicable provisions of the California Environmental Quality Act and the California Government Code.

1.10.2 Adoption of the General Plan

The *Merced Vision 2015 General Plan* was recommended for approval by the General Plan Citizens Advisory Committee on November 19, 1996 and by the City Planning Commission on March 19, 1997 (Resolution #2409). The General Plan was adopted by City Council Resolution #97-23 on April 7, 1997. The most current, official copy of the Land Use Diagram is on display at the Future Planning Division offices at the Merced Civic Center. A list of amendments and revised text reflecting those amendments and copies of the entire General Plan are available at the Planning Division and may also be reviewed at the Merced County Library.



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(5/29/97)





Chapter 2

Urban Expansion

2.1 BACKGROUND & SETTING

The City of Merced is the largest incorporated city in Merced County. Planning in the City is influenced by planning policies of the County, especially policy decisions which affect the rural and suburban areas immediately outside the City's incorporated limits.

Typical problems that can result from lack of coordination between city and county planning policy are:

- Development or establishment of incompatible land uses in close proximity to each other.
- Premature urban expansion without adequate supporting infrastructure or service.
- Development of low-density "suburban" type of housing in areas which could be more appropriately used for "urban" densities or uses.
- Inefficient land use and circulation patterns that can lead to increased public service costs.

The Merced County General Plan, in response to the potential problems of uncoordinated development, has adopted and implemented the "Urban Centered

Concept" for development in the unincorporated areas of the County.

The Urban Centered Concept establishes a County policy of utilizing cities and unincorporated communities or centers to accomplish anticipated urban expansion needs of the County. In general, the County's plan guides future growth into established "urban areas" based on the ability of the area to furnish public services.

The stated purpose of the Urban Centered Concept in Merced County planning is to assure that:

- Growth occurs in an orderly and logical manner;
- Land is utilized efficiently;
- Agricultural operations are not eliminated prematurely;
- The County's planning efforts are complementary to those of the cities; and
- Urban development occurs where proper services are available.

The City of Merced is located within the Merced Specific Urban Development Plan (SUDP) area or "urban expansion area." The SUDP boundary is recognized as the ultimate growth boundary of the City of Merced over the life of this plan. Merced County policy states that all land within the SUDP is

planned for eventual development in a mixture of urban and urban-related uses.

The City of Merced's General Plan builds on the County SUDP policies to provide a long term growth strategy for Merced's future expansion.

This Urban Expansion Chapter addresses the location and timing of new development in the City's planned expansion area. The policies of this Chapter address: 1) expected future growth, 2) density of future growth areas, and 3) the distribution of future growth.

Policies and standards of this Chapter are based on projected population growth of the City. Various methods have been utilized in projecting the City's long term growth; however, timing of annexations within the growth area are based upon actual development demand.

The overall approach of the Merced City General Plan is to develop a strategy to accommodate future population growth in the most efficient manner possible. As a result, the policies of this chapter are primarily concerned with the density and distribution of projected future population growth.

Conservation and efficiency are the guiding philosophies of this Chapter. Like many other Central Valley cities, Merced has its origins tied directly to agricultural production. Agriculture is, and will continue to be, a major contributor to the overall economic health of the City.

As the City grows, expansion will inevitably encroach onto productive crop land. The City of Merced is fortunate in that it is not entirely surrounded by highly

productive or agriculturally significant prime soils. The *Merced Vision 2015 General Plan* utilizes the SUDP policies to guide urban growth towards the least productive soils in the area and to buffer adjacent agricultural lands from urban development.



2.2 LONG RANGE PLANNING

2.2.1 Historic General Plans

1959 General Plan

In 1959, Merced was a small city with a population of 20,000 and its first general plan. During the 20-year life of that general plan, it was expected that Merced would double its population. The land use map showed mostly single-family residential growth with some scattered multi-family in the area bounded by Black Rascal Creek to the north, McKee Road to the east, Gerard Avenue to the south, and Highway 59 to the west.

Major commercial areas were located downtown and along G Street with neighborhood commercial centers spread throughout the planning area. The map also showed industrial development along the west side of North Highway 59, in the area surrounding the Merced Airport, on both sides of South Highway 59, along 16th Street, on the south side of the then proposed Highway 99 from north of Childs Avenue south to Mission, and south of Yosemite Park Way near Kibby Road.

The major street network consisted of a freeway on Highway 59, G, M, and R Streets, Parsons Avenue, and McKee Road in the north-south direction and Yosemite Avenue, Olive Avenue, Yosemite Park Way, a proposed elevated freeway (now Highway 99), Childs Avenue, and Mission Avenue in the east-west direction.

The major issues concerning the framers of the 1959 General Plan included the preservation of the City's neighborhoods, converting Main Street between K and M Streets into a pedestrian shopping mall, locating a new civic center across M Street from the County Courthouse (now site of the County Administration building), and the rehabilitation of blighted areas, mostly on the south side of the City.

1968 General Plan

In 1967-68, the "Citizens Committee of 100" was formed to update the City's general plan. Merced's population was 24,000 and was expected to reach 60,000 by 1990. The major focus of the plan was to have a clearly defined urban

growth area in order to preserve prime agricultural land.

Changes to the land use map from 1959 to 1968 included the reduction of the amount of industrially-designated land and its concentration in three main areas --at Yosemite Park Way and Kibby, around the Merced Airport, and on the west side of Highway 59 from 16th Street to Santa Fe Drive; the designation of two major regional commercial centers--one in the downtown area near M and 18th and one in North Merced near Olive and M (the current site of the Merced Mall); a regional park and golf course in the Fahrens Park area; a new high school site immediately north of the existing Merced High School North Campus; the development of a Civic Center near 18th & M; and a system of greenways and strip parks along the three major creeks--Fahrens, Black Rascal, and Bear.

The circulation system remained relatively unchanged from 1959 except for a proposed rerouting of Highway 140 through the City. This proposed route would have swung north from Gurr Road to tie into Highway 99 at the Franklin Road interchange, followed the route of Highway 99 through the City, and then would have left Highway 99 at Mission Avenue and moved diagonally north and east until it met up with Yosemite Park Way east of the City near Orchard Road.

1981 General Plan

In 1981, the City had a population of 37,000 which again was expected to double during the 20-year life of the plan. This general plan focused most of the City's new growth to the north and south in order to preserve the prime agricultural

lands to the City's west and east. The City's Specific Urban Development Plan (SUDP) or growth boundary was established (see *Figure 2.3*) and city/county cooperation on growth issues was emphasized. Preservation of agricultural areas, existing neighborhoods, and creekside open space remained a high priority.

Most of the land use plan still called for single-family residential, but higher densities were established in key areas of downtown and in the Merced Mall area where they would be close to services. Commercial areas in North Merced were significantly expanded, especially for professional office; but concern for downtown led to policies against establishing any new regional commercial facilities unless the need could be clearly demonstrated. Many of the "surplus" industrial areas eliminated in the 1968 General Plan were now back.

The circulation element called for a clear hierarchy of streets, controlled access on major streets, and an expanded off-street bicycle path system incorporated into the creekside open spaces.

2.2.2 Merced 2030 and the Village Concept

Even though the General Plan was last comprehensively updated in 1981, Merced has been actively planning for its future. Beginning in 1990 with the *Merced 2030: How Should We Grow?* process, the City began looking at the manner and direction of the City's future growth.

At that time, population projections indicated that the City could reach a

population of 250,000 by the year 2030. Although subsequent events (Castle AFB's closing, the recession in the economy, etc.) have tempered this projection, the assumption remains the same--the City will grow to be much larger and, if Merced is to avoid the pitfalls of other urban areas that size, we need to start planning for accommodating that growth today.

The *Merced 2030* process evaluated four different growth scenarios in terms of future impacts on quality of life, efficient circulation, public services and facilities provision, environmental constraints, and estimated future costs.

The four growth scenarios considered were as follows:

- I) "*The Western City*"-- Scenario I proposed growth to the north and growth to the west between Santa Fe Drive and Highway 140 toward the City of Atwater. This scenario scored well in terms of livability and access to downtown, but would have posed problems with circulation, public service provision, and cost. It also intruded on environmentally-sensitive areas, such as agricultural lands to the west, flood-prone areas, and airport clear zones.
- II) "*The Linear City*"-- Scenario II showed considerable growth to the north in a compact linear pattern along G, M, and R Streets. This scenario had a high-degree of livability, maintained a simple, well-defined circulation system, protected environmentally-sensitive areas, and had a lower overall cost. Its extreme northern growth, however, was inconvenient to Highway 99 and

holding its east-west boundaries would have been difficult.

III.) *"The Eastern City"*-- Scenario III projected major easterly growth beyond Kibby Road and some northern growth around Lake Yosemite. This scenario had easy access to Highway 99, but would have caused major east-west traffic problems. It would have also resulted in the heavy loss of prime farmland and was the most costly scenario to implement.

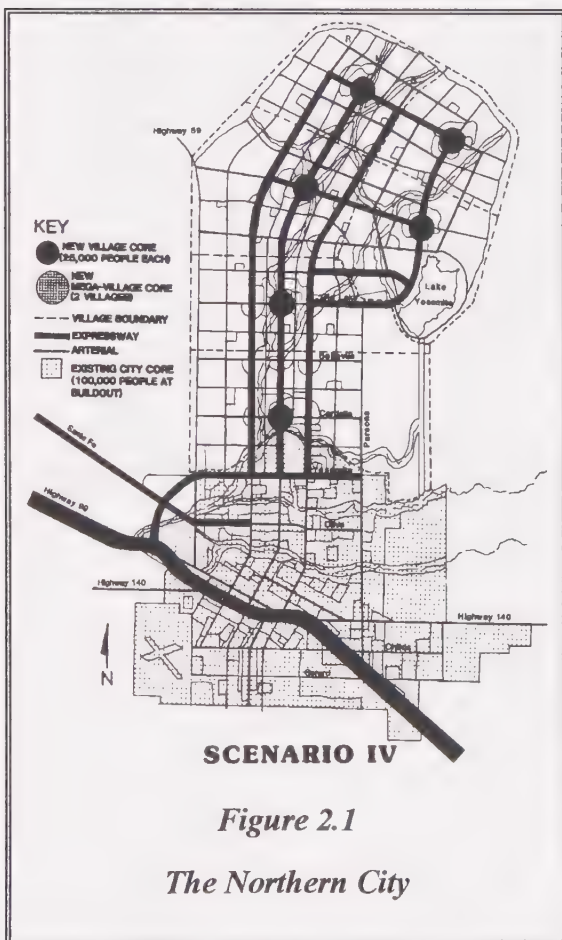


Figure 2.1
The Northern City

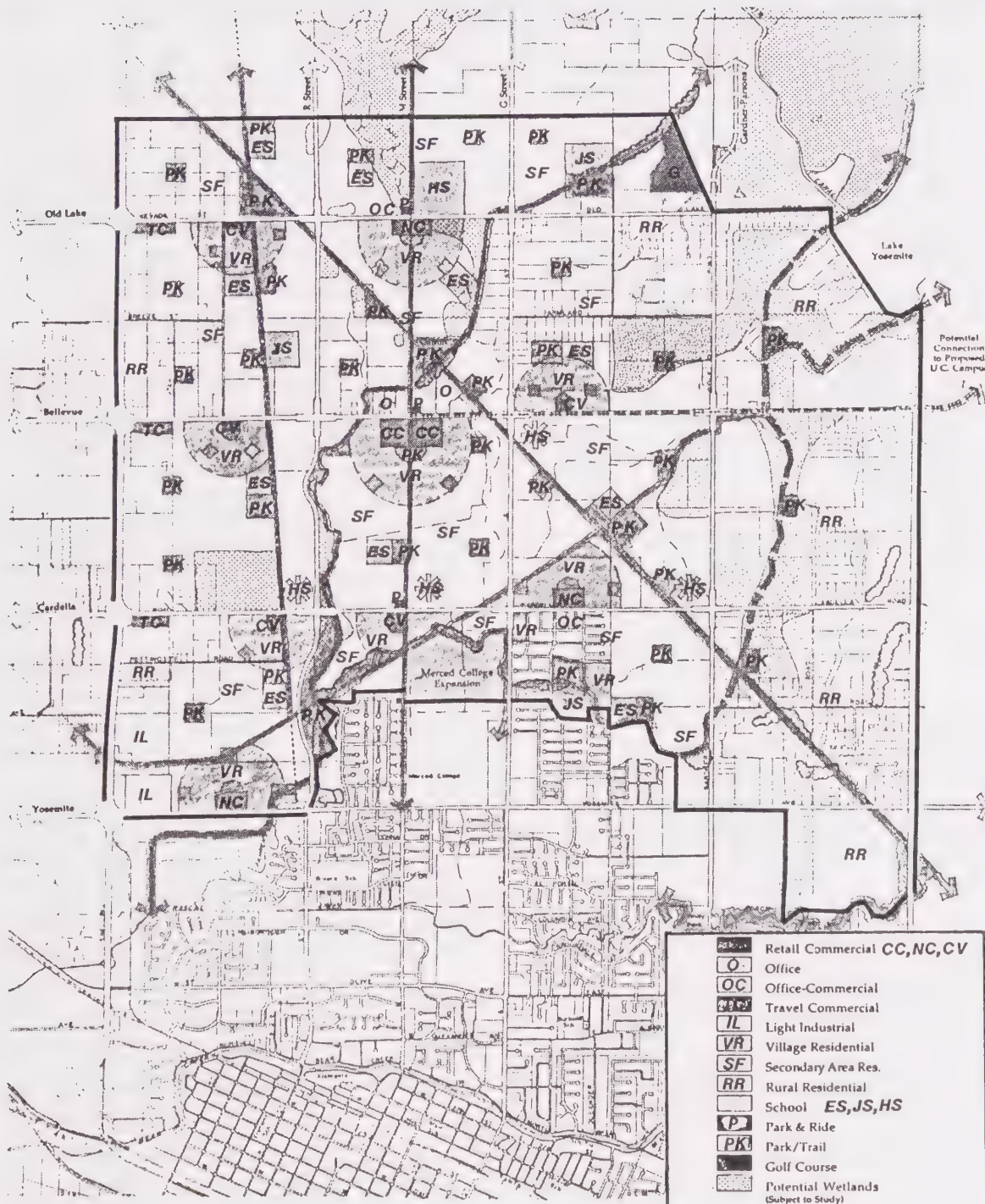
IV) *"The Northern City"*-- Scenario IV envisioned growth to the north and northeast around Lake Yosemite. This scenario sought to avoid

environmentally-sensitive lands and allowed for the efficient and relatively inexpensive provision of public services. Of all the scenarios, Scenario IV fit in best with the possible location of a UC campus near the lake, which at the time had only been narrowed down to 20 sites throughout the Central Valley.

After much public discussion throughout 1990, Scenario IV, *"The Northern City,"* (Figure 2.1) was adopted along with the "Village Concept," which envisioned Merced's future growth in a series of mixed-use, self-sustaining, pedestrian-oriented neighborhoods.

2.2.3 North Merced Conceptual Land Use Plan

Subsequently, a conceptual land use plan for an 8,000-acre study area in North Merced was completed in 1992 (Figure 2.2). This plan refined the "Village Concept," defined design guidelines to implement the concept, and proposed a circulation system utilizing a mile-grid of arterials and an expressway along Highway 99. Each of the villages is to be anchored by a commercial center (or core) of varying sizes along a major arterial surrounded by higher-density housing within a 1/4-mile radius and single-family development beyond. This plan, with some modifications to allow more commercial development within the villages and to provide more employment opportunities along Highway 99, formed the basis for the Merced 2015 General Plan Land Use Diagram (see Chapter 3) for the City's northern growth area.



Asterisk denotes potential high school sites

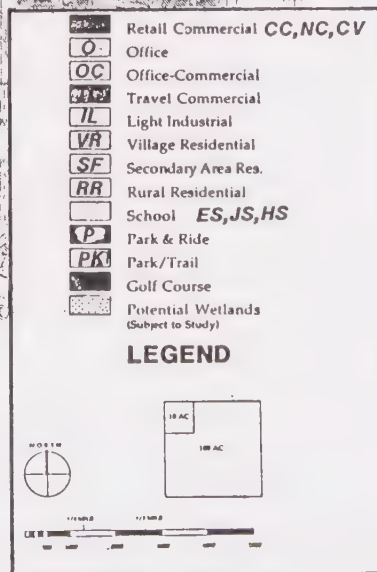


Figure 2.2

North Merced Conceptual Land Use Plan

2.2.4 Commercial and Industrial Land Study (1994-2010)

In 1994, an important background document for the *Merced Vision 2015 General Plan*, the *City of Merced Commercial and Industrial Land Study (1994-2010)*, was completed. This study attempted to identify future commercial and industrial sites to be included in the General Plan. This was necessary because the City's inventory of readily available commercial and industrial sites was low. An action program was also proposed as part of this study because making industrial and commercial sites available for development takes much pre-planning to ensure that necessary public facilities and services are available when needed.

After extensive public discussion and review by the General Plan Citizens Advisory Committee, Economic Development Advisory Committee, Planning Commission, and City Council on the Commercial/Industrial Study, it was recommended that no specific decisions regarding the proposed sites should be made until the completion of the General Plan Update and EIR and other related decisions. Many of the sites proposed in the study have subsequently been included in the General Plan Land Use Diagram.

2.2.5 General Plan 2015 Land Use Diagram and Growth Projections

The General Plan 2015 Land Use Diagram (**Figure 3.1**, described in detail in Chapter 3, Land Use) is the end result of the previous long-range planning efforts described in Sections 2.2.1 through 2.2.4. Although the Land Use

Diagram contains parts of each of these efforts, it is not an exact copy of any of them. Over time as circumstances and concepts have changed, the Land Use Diagram has also evolved. It now contains areas, land use designations, boundaries, and concepts that were not anticipated in previous general plans or in more recent studies, such as *Merced 2030*.

One of the many factors that has changed over time and affected the Land Use Diagram is the amount of growth projected for the City. **Table 2.1** on the next page illustrates the expected population growth within the Merced SUDP, including U.C. off-campus growth through the Year 2035 (expected build-out year of the campus). These projections were derived from population projections for Merced County developed by the Merced County Association of Governments (based on California Department of Finance projections) and estimated population impacts on Merced County related to the UC campus from the *UC San Joaquin Site Selection Environmental Impact Report*.

The City has included the UC numbers to illustrate that as a 'worst-case scenario' all off-campus UC-related growth can be accommodated within the City's SUDP where public services and infrastructure will be available. Given Merced's proximity to the campus, it can be assumed that a significant portion of that growth will take place in the SUDP. The portion of that growth that may be accommodated within the "University Community SUDP" (or elsewhere in the County) cannot be determined until a land use plan for that area is established and further demographic studies are completed.

Table 2.1

*City of Merced Population Projections
(1990 to 2035)*

Year	City 2015 SUDP	U.C. (Off-campus)	Total	Percent of County
1990	60,900	0	60,900	34.1%
1995	73,830	0	73,830	35.2%
2000	84,940	0	84,940	35.5%
2005	100,880	0	100,880	36.5%
2010	116,800	5,850	122,650	38.3%
2015	133,250	12,100	145,350	39.2%
2020	149,700	18,360	168,060	39.7%
2035	202,070	37,140	239,210	42.3%

2.3 URBAN EXPANSION

2.3.1 Urban Expansion Constraints

Merced has some very important physical growth constraints that will likely continue to limit the direction growth can take. These physical constraints were one of the criteria by which the four growth scenarios analyzed in the Merced 2030 process (Section 2.2.2) were evaluated. These growth constraints are illustrated below and include the following:

- 1) Growth is restricted around the Municipal Airport in the southwest corner of the City due to the noise and safety hazards associated with the flight path. Residential growth around the airport cannot easily be accommodated without jeopardizing both the developing area and the presence of the airport. Therefore, most of the growth around the airport is proposed for industrial uses, which are not as sensitive to the noise and safety hazards.
- 2) Growth is limited south of Mission Avenue due to the flood potential, a

high water table, and productive agricultural areas.

- 3) Growth is undesirable to the east and west to due to prime agricultural soils.
- 4) Growth to the northwest was once limited by the noise and safety hazards posed by Castle Air Force Base's flight path and is still limited by the desire of the cities of Atwater and Merced to leave a "greenbelt" or open space area between the two cities (see Section 2.6.3). Castle's future aviation use is uncertain at this time, which makes it difficult to determine if it will continue to be a growth constraint (see Section 2.6.2).
- 5) Growth needs to be planned carefully to the northeast to avoid undue impacts on Lake Yosemite.

For many years, the City's growth has been predominantly to the north and is anticipated to continue in this direction far into the future. In fact, the City's adopted *Merced 2030* scenario, "*The Northern City*," directs growth away

from more environmentally-sensitive areas to the City's east and west and towards the lesser agricultural soils and grazing land to the north.

In addition to these physical constraints, there are other constraints which affect the City's growth pattern. Because of the City's predominantly northern growth, the circulation system has for many years concentrated on moving traffic in a north-south direction. Since not as much attention has been paid to east-west circulation, there is not as much traffic-carrying capacity on east-west streets as on north-south streets. This would make it difficult to grow to the west or east given the likely severe traffic impacts on existing streets and on the residents who live along them.

2.3.2 Specific Urban Development Plan (SUDP) and Sphere of Influence (SOI)

There are three basic boundaries which define the City in relation to the County--the City Limit Line (discussed under Section 2.4 which follows), the Specific Urban Development Plan boundary, and the Sphere of Influence.

Specific Urban Development Plan (SUDP) Boundary

Since 1978, the "Urban Centered Concept" has been the guiding land use principle for the County. According to the Merced County Year 2000 General Plan, "the urban centered concept is directed at utilizing cities and unincorporated communities or centers to accomplish anticipated urban expansion in an orderly manner, based on the ability of these communities to furnish public

services along with land needs based on population demands and in balance with employment-generating land uses." The goal is "to provide for intensive urban development and to protect agricultural and open space land from uncontrolled sprawling urban development."

The County applies the urban centered concept through the designation of Specific Urban Development Plans (SUDP), Rural Residential Centers (RRC), Highway Interchange Centers (HIC), and Agricultural Services Centers (ASC). Of these, only SUDP's and RRC's relate to Merced's planning efforts. Specific Urban Development Plans are intended to accommodate all classifications of urban land use (residential, commercial, industrial, and institutional).

"An SUDP has a boundary line which is recognized as the ultimate growth boundary of the community over the life of the Plan, and all land within the SUDP is planned for eventual development in a mixture of urban and urban-related uses." (from Merced County Year 2000 General Plan)

Each of Merced County's six incorporated cities as well as eighteen unincorporated communities are presently designated as SUDP's.

The City's SUDP, adopted by the Merced City Council and the County Board of Supervisors in January 1979, delineated an expansion area for urban growth for approximately 16 years or through 1995. Along with the SUDP boundaries, the "Resolution of Agreement" which spells out policies for administering land use within the plan area was adopted.

The SUDP boundaries were adjusted by both the City and the County in October 1981 to include some additional areas, following the City's 1981 General Plan Update. In September 1982, the City Council voted to include the "Weaver Area" (generally bounded by Highway 140, Weaver Avenue, the Doane-Hartley lateral, and Gerard Avenue) within the City's SUDP and Sphere of Influence (SOI). These changes were not agreed to by the County Board of Supervisors, however. (Subsequently, LAFCO did approve the inclusion of this area in the City SOI.)

The SUDP as it existed in 1995 can be seen in **Figure 2.3**. It contains approximately 16,000 acres.

As set out in the Resolution of Agreement which accompanied the SUDP designation in 1979, no urban expansion or intensive land use development was to occur beyond this boundary unless mutually agreed upon by the City and the County and then only through a county general plan amendment.

The Resolution of Agreement also set forth policies for dealing with development proposals within Merced's SUDP and adjacent Rural Residential Centers. This agreement has been replaced by the City/County Property Tax Sharing Agreement adopted by the City and County in 1997, however. Please see Section 2.3.4 for details.

As adopted in 1983, Merced's SUDP boundary is also our "Sphere of Influence." The Sphere of Influence is defined in the California Government Code (Section 56076) as "a plan for the probable ultimate physical boundaries and service area for a local agency as

determined by LAFCO." In order for an annexation to be approved by LAFCO, the territory must be within the Sphere of Influence. State law also requires that the City be notified of any proposed land use changes or developments within its sphere of influence and be given a chance to comment on those proposals.

Expanding the SUDP/SOI

As part of the Merced 2015 General Plan, the City is proposing an expansion of its SUDP boundaries and Sphere of Influence. This expansion is necessary to accommodate the City's growth over the next 20 years (the usual life of a general plan). A detailed discussion of the justification for the expanded SUDP/SOI follows under the heading "SUDP/SOI Expansion."

In 1994, the Merced County LAFCO adopted a set of Local LAFCO Goals, Objectives, and Policies to address local concerns and priorities regarding annexations. These policies spell out criteria which will be applied to cities requesting an amendment to their Sphere of Influence. The *Merced Vision 2015 General Plan* addresses the criteria as follows (*indicated in italics*):

- 1) Identification of the City's desired Sphere of Influence boundary and all planned land uses in the expanded Sphere--(*See Land Use Diagram for all proposed uses within the SUDP. Areas in the Sphere outside the SUDP's are not considered for urban development within the 20-year planning period.*)
- 2) Policy regarding the phasing of future annexations--(*See Urban Expansion Policies UE-1.1, UE-1.2, UE-1.3, and UE-1.7.*)

- 3) Policies regarding the timing of conversion of agricultural and other open space lands and the avoidance of conversion of prime soils--(*See Urban Expansion Policy UE-1.1 and Open Space Policies OS-2.1 and OS-2.2.*)
- 4) Demonstration of the present and probable need for public facilities and community services (including the sequence, timing, and probable costs) within the sphere--(*See Urban Expansion Policy UE-1.3 and Public Services and Facilities Policies P-1.1, P-1.2, P-1.3, P-2.1, P-3.1, P-4.1, P-5.1, and P-7.1.*)
- 5) Identification of any social or economic communities of interest within the planning area, such as the relationship between any adjacent or nearby cities or special districts which provide urban services, which may affect the boundaries of the proposed sphere--(*See Urban Expansion Policies UE-1.1, 1.4, and 1.5.*)
- 3) Is the land presently used or recently used for agriculture?
- 4) Will a nonagricultural use create conflicts with adjacent agricultural uses?
- 5) Have provisions been made to provide adequate levels of public services to satisfy the demands generated by the proposed development?
- 6) Will an individual waste disposal system contaminate the surface or groundwater table?
- 7) Will intensive use present hazards to public health, welfare, or safety?
- 8) Will urban use impact significant open space and/or conservation values?
- 9) Is there an adequate supply of available vacant land within the existing urban boundary to accommodate reasonably anticipated or historic growth needs over the next 10 years?
- 10) Is the proposal consistent with the goals and policies of the Community Specific Plan or City General Plan?

SUDP Expansion

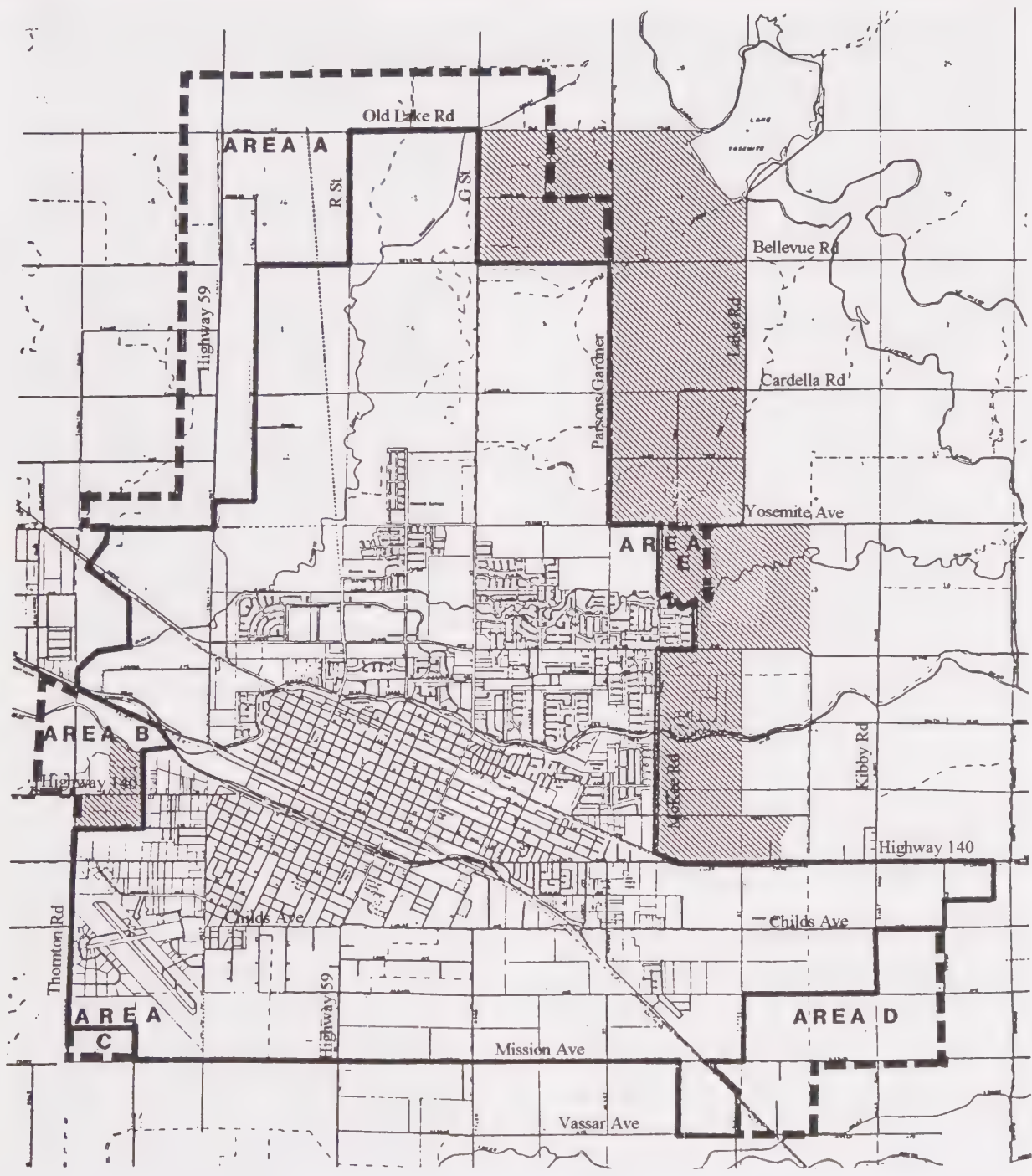
With this General Plan, the City is planning to expand its SUDP by approximately 4,300 acres (**Figure 2.3**). The areas of major expansion are:

- 1) Area A consists of approximately 3,000 acres in North Merced. The new SUDP boundary would generally move to the west of Highway 59, north of Old Lake Road, and east to Gardner Road. This area is proposed for industrial and business parks along Highway 59 and residential and commercial “villages” north of Bellevue Road.
- Area A, along with other areas north of Yosemite Avenue, is an integral piece of the area envisioned in the *North Merced Conceptual Land Use*

Once LAFCO has approved the City’s sphere based on the above criteria, future annexation requests from the City for areas inside the sphere will require only a limited review by LAFCO. This review will deal with the appropriateness and efficiency of the boundary and conformance with the City’s General Plan, including relevant phasing policies and public service availability.

The *Merced County Year 2000 General Plan* spells out the following ten criteria to be considered when the expansion of an existing SUDP is requested:

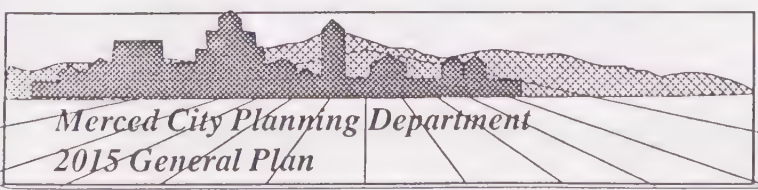
- 1) Is the soil suitable for agriculture according to soil capability?
- 2) Is the present parcel size a sufficient size for economic agricultural use?



-  1995 SUDP Boundary/Sphere of Influence
-  Proposed Merced 2015 SUDP Boundary
-  Existing Rural Residential Centers

Figure 2.3

*Merced Specific Urban Development
Plan Boundary (SUDP)
(1995-2015)*



Plan (Section 2.2.3). This area will be needed to accommodate a significant amount of the residential growth in the City for the next 20 years (Section 3.10.1).

The business park and commercial areas along the Highway 59 expressway are included in order to provide a better “jobs-housing” balance in North Merced to alleviate circulation and air quality concerns. Most existing employment opportunities in Merced are located downtown and south of Highway 99. (Please refer to Sections 3.5.2 and 3.10.2 of the Land Use Chapter for more discussion regarding long-term industrial land needs.)

- 2) Area B consists of approximately 330 acres. It would move the SUDP south of Highway 99 to Lopes Avenue and west of Massasso to a line 1/4 mile west of Thornton Road (extended). This area would become a proposed specific plan area (see Section 3.7.5) south of the proposed Thornton/Highway 99 Interchange.

Area B is included in the expanded SUDP because of the critical nature of this interchange location, which will link North Merced to Highway 99 and employment opportunities in South Merced. Land uses and circulation access around this interchange will need to be carefully planned in order to ensure that the interchange functions to capacity. There is some prime agricultural land in this area and every effort will be made to preserve it as long as that effort does not interfere with the function of this critical interchange.

- 3) Area C, encompassing 75 acres, moves the SUDP line to take in the property on the northeast corner of Mission Avenue and Thornton Road. This area is planned for additional southern expansion of the Airport Industrial Park.

Inclusion of Area C within the SUDP will form a more logical urban boundary, which LAFCO policy states should be defined by physical characteristics such as streets (Mission and Thornton) and creeks.

- 4) Area D (approx. 800 acres) would expand the SUDP line in Southeast Merced. The line would generally move south to Mission Avenue and Vassar Avenue and east to Tower Road. This area is planned for a major expansion of the Santa Fe Industrial Park, business parks, and highway-oriented commercial uses adjacent to the proposed Mission Interchange.

Area D represents the only area where large industrial sites, such as those needed by food processors and distribution/warehousing operations, can be accommodated within the Merced planning area. Property divisions and physical constraints make this difficult in other areas, so the prime agricultural land which exists in this area will need to be converted to urban use to support these agriculturally-related industries. Although development of this entire area will not likely occur in the next 20 years, it is necessary to plan for long-term (30 to 40 years) industrial growth for a variety of reasons which are discussed at length in Section 3.5.2 of the Land Use Chapter.

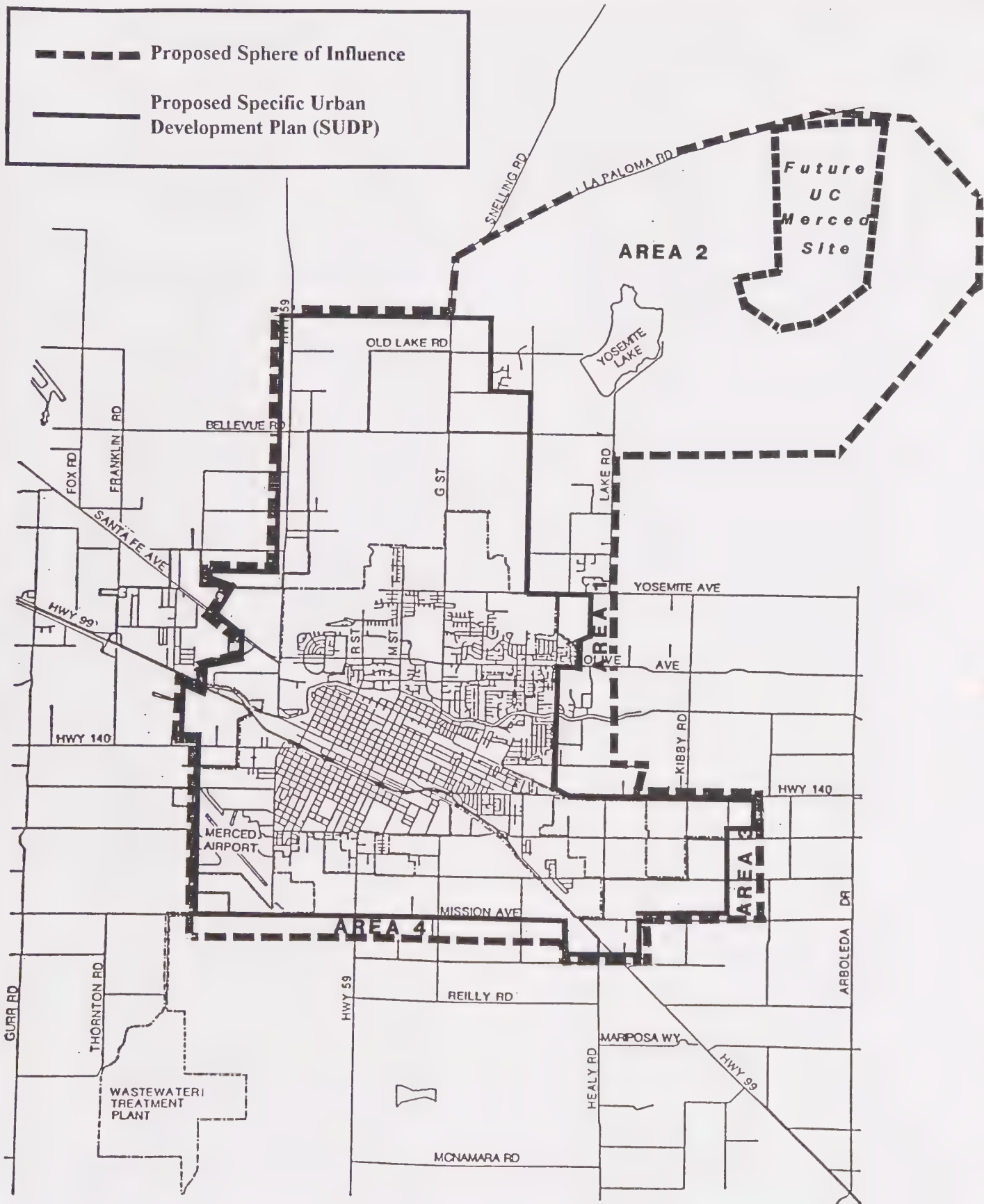


Figure 2.4

City of Merced Expanded
Sphere of Influence

Area E (approx. 140 acres) would expand the SUDP to include the area bounded by McKee Road to the west, Yosemite Avenue to the north, a line 1/4 mile west of Lake Road (extended) to the east, and Black Rascal Creek to the south. This area is proposed for single-family residential and estate lots.

Area E is proposed for inclusion in the SUDP, although it is currently within a County RRC (see below), because of some unique circumstances. This area is relatively isolated from its neighbors because it is bounded by roadways and a creek. In addition, the City limits make their only encroachment east of McKee Road immediately south of this area. Because of this and the infrastructure readily available to serve this site (sewer trunk line in Yosemite Avenue, etc.), it makes sense for this area to be allowed to develop at a somewhat higher density than would be allowed in the RRC.

In summary, these areas represent logical expansion areas for the City because they are adjacent to major highway improvements (Highway 59, Thornton/Highway 99 Interchange, Mission/Highway 99 Interchange, etc.). They also encompass areas needed for long-term commercial and industrial development. The residential areas included in this expansion (mostly in Area A) were for the most part previously shown as part of the *Merced 2030 "Northern Growth Scenario"* (Section 2.2.2) and the *North Merced Conceptual Land Use Plan* (Section 2.2.3). All these areas will be necessary if the City is to have enough land to accommodate expected growth over the

next 20 years (see Sections 3.10.1 and 3.10.2 for details).

Sphere of Influence Expansion

The expanded Sphere of Influence of (approx. 35,000 acres) would include the proposed SUDP area along with:

- 1) The rural residential centers along the City's eastern fringe, north of Highway 140 and west of Lake Rd.;
- 2) The University Community SUDP (see Section 2.6.1);
- 3) An area north of Mission and east of Orchard Drive which could accommodate future expansion of the Santa Fe Industrial Park beyond 2015; and,
- 4) An area extending 1/4 mile south of Mission Avenue between West Avenue (extended) and Highway 99 (see Section 3.8.3) along the Mission Avenue transportation corridor and immediately adjacent to the City's SUDP north of Mission Avenue.

Including these areas in the Sphere would allow the City to comment on any development proposals which might occur in these areas and impact current and future City development patterns, public service provision, and circulation routes. These areas are not considered for urban development within the 20-year planning horizon with the exception of #2 above. This expanded Sphere of Influence can be seen in *Figure 2.4*.

2.3.3 Fringe Development

Rural Residential Centers

According to the *Merced County Year 2000 General Plan*, "in contrast to SUDP's, Rural Residential Centers (RRC) provide for urban or suburban residential development at lower densities (along with some accessory

agricultural uses such as livestock pasturing, stables, and hobby farming, and some recreational and institutional uses) and generally without the full urban services provided in a SUDP."

The County General Plan recognizes that "there are many problems with the continued traditional build-up of RRC's," and "no new RRC's are needed and the expansion of RRC boundaries should be strictly scrutinized by reviewing the development options in existing established urban centers." The City strongly supports this view.

Problems with Rural Residential Centers include the RRC's "extremely inefficient land use in terms of agricultural land conversion and service delivery costs to the County;" "the location of large A-R zoned areas north of Merced...which does not serve as a realistic buffer because they are not adjacent to high density urban areas;" the potential for ground water contamination from the concentration of septic tanks on one-acre lots; and the increasing difficulty in obtaining potable drinking water from individual wells due to stricter standards. An increase in density for RRC's, which allows up to three units per acre if community water and sewer systems are established, was incorporated into the County General Plan in 1990.

Three Rural Residential Centers are designated adjacent to Merced's SUDP (*Figure 2.5*). The largest, covering almost six square miles (over 3,800 acres), parallels Merced's eastern SUDP boundary generally west of Lake Road from Old Lake Road south to Highway 140. The second, much smaller RRC is located north of the Merced Airport

along Highway 140, east of Thornton Road. The "Weaver Area" RRC (south of Highway 140 between the Merced eastern city limits and the Santa Fe Industrial Park) is the third RRC and is a special case. The County designates it as a RRC while the City includes it within its SUDP, which would allow for a full range of urban land uses and services not allowed under an RRC.

These RRC's were established as buffers between urban development and agricultural uses and provide a market area for large estate lots in a "rural" setting preferred by some home buyers. Most of the RRC's are already developed and subdivided into one to two-acre lots which would make redevelopment or redesignation of these properties unlikely.

In the 1997 City/County Property Tax Sharing Agreement (Section 2.3.4), the County agreed that projects within the existing RRC's would be limited to residential development of one unit per acre or less and that the County would not expand the existing RRC's into the City's proposed Sphere of Influence outside of the University Community SUDP (Section 2.6.1).

Franklin-Beachwood SUDP

The Franklin-Beachwood SUDP is located directly adjacent to the Merced SUDP's western boundary between Merced and Atwater north of Highway 99 (*Figure 2.6*). This unincorporated SUDP covers approximately one square mile and has its own sewer and water system, but relies on the County for the rest of its urban services.

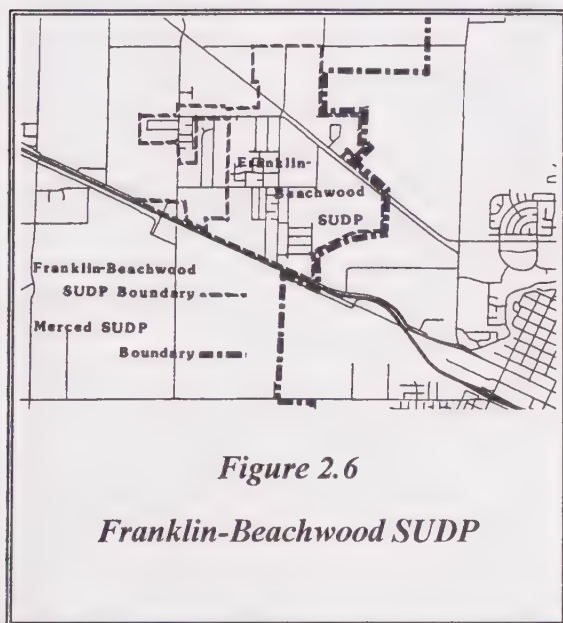


Figure 2.6

Franklin-Beachwood SUDP

The area includes a mixture of industrial uses adjacent to the City's SUDP boundary and along Santa Fe Drive, commercial uses along Santa Fe Drive and Ashby Road (Highway 99 frontage road), and low-density residential uses along Franklin Road and Beachwood Avenue. The County has adopted a "Community Specific Plan" for the area.

The City of Merced respects the Franklin-Beachwood area's separate identity and does not foresee annexing the area to the City in the future. However, the City would not like to see the Franklin SUDP area increase significantly in size or intensity. Merced's proposed SUDP respects the Franklin-Beachwood SUDP boundaries, but the City's proposed Highway 59 bypass will likely need to pass through a portion of the Franklin SUDP area in order to align with a proposed Thornton Avenue interchange with Highway 99.

2.3.4 City/County Property Tax Sharing Agreement

In February 1997, the "Property Tax Sharing Agreement between the City of Merced and the County of Merced" was adopted by the Merced City Council and Merced County Board of Supervisors. This agreement covers many areas besides just property tax sharing, however. The provisions include:

- I) Sharing of a larger portion of property tax dollars with the County in newly annexed City areas;
- II) Participation in a joint study of how to fund the Criminal Justice system;
- III) Sharing of tax increment revenue from City Redevelopment Project Area #2 with the County for library purposes exclusively;
- IV) Establishment of a Educational Revenue Augmentation Fund (ERAF) for the County from any new Redevelopment Areas;
- V) Mutual collection of Capital Facility Impact Fees Related to Growth within the City or County; and,
- VI) Land Use Provisions, described in detail below.

Within the agreement, the County agreed to amend its General Plan to accommodate the growth of the City as follows:

- A) Within the City's proposed SUDP (*Figure 2.4*), the County agrees not to change the land use designation of territory from a rural to an urban classification and to maintain existing agricultural zoning within the area. For any development projects within areas currently zoned for urban development, City development standards will be required and the City will be given an opportunity to encourage the property owners to annex to the City.

- B) Within existing Rural Residential Centers (RRC), projects will be limited to residential development of one unit per acre or less. The County will not expand existing RRC's into the City's proposed Sphere of Influence (**Figure 2.4**) outside of the University Community SUDP (Section 2.6.1).
- C) Within the University Community SUDP, the County agrees to implement development consistent with the cooperative planning process described in the County General Plan and to refer all development projects to the City for comment.
- D) Within areas inside the City's Sphere of Influence but outside the City SUDP, the RRC's, and the University SUDP, the City and County agree not to approve any changes in land use designation from non-urban to urban without prior agreement of the other party.

This agreement is a critical landmark in City/County cooperation and grants the City some control over development within its proposed SUDP. The City will continue to work closely with the County to resolve any subsequent issues within the City's Sphere of Influence, including issues involving designation of "Areas of Interest" and cooperative planning of the area around the UC campus at Lake Yosemite.

2.4 ANNEXATIONS

All property enclosed within the Merced City Limits (or boundary) are part of the City and under the jurisdiction of the City Council. All decisions regarding land use, circulation, public services, etc. within the City limits are made by the City Council. Although the City is still part of the County, the County Board of Supervisors has no direct decision-making authority regarding land use matters within the City limits. The services that the City and County each provide to their citizens are defined by the state. In 1995, there were approximately 16.8 square miles of land within the Merced City Limits.

When property is annexed, the City Limit Line is changed to include that property. Annexations must be approved by the City Council and the Local Agency Formation Commission (LAFCO). LAFCO's were created by the state to oversee changes in jurisdictional boundaries. Locally, LAFCO is made up of two members of the Board of Supervisors, two members that represent the six incorporated cities in Merced County, and one independent public member.

According to the Resolution of Agreement between the City and County, a property must be within the City's SUDP boundary and contiguous (directly adjacent) to the City Limit Line to be eligible for annexation to the City. If the City agrees to annex the property, it is agreeing to provide City services (i.e. sewer, water, police, fire, garbage, etc.) to the property.

The City usually annexes land at the request of property owners who are

ready to develop their property in the near future. Large areas are usually not annexed until a master development plan which addresses infrastructure, circulation, and land use needs has been developed (see Policy UE-1.3). Some commercial and industrial properties may need to be annexed years in advance of development in order to be sure that needed infrastructure is in place to support a competitive development when the time comes.

2.4.1 Unincorporated Islands

Within the Merced area, there exists several unincorporated areas or “islands” which are completely surrounded by City development.

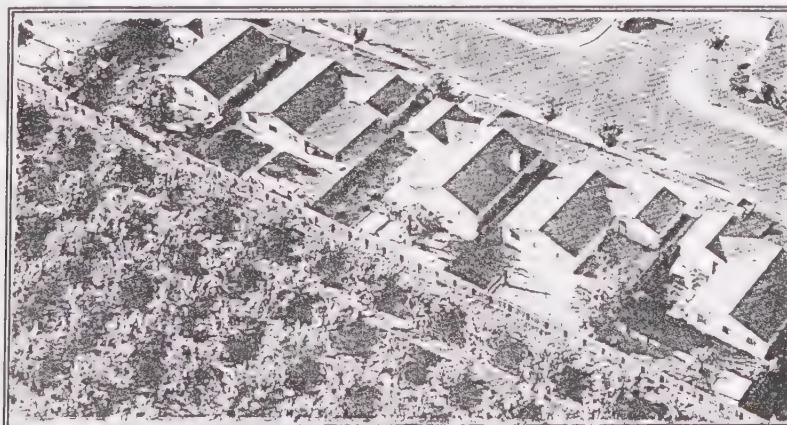
Such development often results in problems of public protection service delivery, in addition to posing potential long term problems with respect to maintenance of on-site water systems and wastewater disposal (septic) systems. Additionally, residents of these areas, while directly impacted by the City’s planning decision-making process, have no direct voice in municipal affairs. In the interest of both the City and these residents, these developed areas should be annexed to the City of Merced

sometime during the next ten to twenty years.

Attempts to annex such areas in the past have met with considerable reluctance from property owners in the affected areas due to concerns about potential loss of existing “rural” way-of-life, possible City restrictions on the keeping of farm animals, the cost of connecting to City sewer and water, and the possible imposition of greater public improvement standards. (The often stated fear of “higher City taxes” is not accurate--there is no difference in property tax rates for the City versus the County.)

These concerns, though valid to a degree, do not negate the fact that this is not an efficient or cost-effective manner of providing public services, which ultimately affects all City and County residents. It should also be noted that through existing cooperative agreements, residents of these areas often benefit from City fire and police services and also rely on City streets and commercial services paid for by City residents.

To promote the annexation of these areas, the City is proposing a number of policies and actions to make annexation more attractive to area residents (see Policy UE-1.7).



2.5 URBAN EXPANSION GOALS, POLICIES, AND ACTIONS

Goal Area UE-1: Urban Expansion

GOALS

- A Compact Urban Form
- Preservation of Agriculturally Significant Areas
- Efficient Urban Expansion

POLICIES

- UE-1.1** Designate areas for new urban development that recognize the physical characteristics and environmental constraints of the planning area.
- UE-1.2** Promote a compact urban form.
- UE-1.3** Control the annexation, timing, density, and location of new land uses within the City's urban expansion boundaries.
- UE-1.4** Establish joint City-County planning program on the UC San Joaquin (Merced) site and Smith Trust lands.
- UE-1.5** Work with Merced County and the City of Atwater to establish a Greenbelt area between the Cities of Atwater and Merced.
- UE-1.6** Preserve the projected "Northern City" urban expansion area for anticipated growth needs beyond the year 2015.
- UE-1.7** Promote annexation of developed areas within the City's Specific Urban Development Plan (SUDP) during the planning period.

Policy UE-1.1

Designate Areas For New Urban Development That Recognize the Physical Characteristics and Environmental Constraints of the Planning Area.

The City of Merced is situated in an area which contains physical characteristics and environmental constraints that would be adversely impacted by poor urban expansion policy. It is in the long term interest of the City to promote urban expansion policies which protect and promote avoidance of sensitive environmental and resource areas.

Implementing Actions:

1.1.a Direct development away from significant concentrations of “Prime” agricultural soils and give priority to the conversion of non-prime agricultural land if reasonable alternatives exist.

Urban expansion should be directed away from significant concentrations of “prime” soils and where agricultural use can still be economically sustained. Development within the City’s SUDP should be developed in such a manner as to minimize impacts on “prime” soils along the City’s urban fringe. It is recognized that it is not possible to avoid all “prime” soils. Some areas that contain prime soils are adjacent to important circulation and employment corridors and will need to be developed for urban use in order to achieve critical City economic development and circulation goals. Accommodating growth in a compact form within the City’s growth area will decrease the pressure to develop outside urban areas where more prime soils and intensive agricultural operations now exist.

1.1.b Limit development and development related impacts on agricultural lands along the City’s urban fringe.

Less intense development (i.e. large lot single-family housing on 10,000 and 20,000 square foot lots) should be directed toward the eastern and western fringes of the City, except where more intense development can be served by major transportation corridors. The City will consider adopting a “right-to-farm” ordinance to protect existing agricultural operations by notifying homeowners moving to areas adjacent to these operations of the continued use of agricultural chemicals and the operation of heavy farming equipment.

1.1.c Incompatible urban development shall not be approved in designated airport clear zones.

It is in the City’s interest to protect the airport “Clear Zones” within the Planning Areas. This may include clear zones for the Merced Municipal Airport as well as any newly-established clear zones for the Castle Airport. To this degree, the City may include these Clear Zones within the Merced SUDP or Sphere of Influence with the intention of establishing land use policy which limits residential development while allowing some industrial and commercial development which would not interfere with airport operations.

1.1.d Work with Merced County to establish policies to protect prime agricultural areas around the Sphere of Influence, including the areas north of Highway 140 and east of Lake Road (extended), from urban development. This process should include consideration of:

- a) A process to implement techniques (transfer of development rights, agricultural easements, Farmland Trusts, etc.) as part of the UC Campus Parkway corridor planning in order to establish a limited access parkway with no adjacent urban development outside of the Merced SUDP and the University Community SUDP.
- b) Designation of an “Area of Interest” or other process to require referral for comment to the City of any proposed development projects within a to-be-established boundary.
- c) Limiting the expansion of the existing Rural Residential Centers and SUDP’s into prime agricultural areas around the Sphere of Influence.

The agricultural areas north of Highway 140 and east of Lake Road (extended) are not included in the City's SUDP or Sphere of Influence. However, the City does retain an interest in seeing that this area remains agricultural. The City has for many years sought to direct urban development away from this area in order to preserve its prime agricultural soils. In fact, the City rejected the proposed *Merced 2030 Scenario III* which directed significant growth to the east for that reason. The City will work with Merced County to establish policies which reinforce this goal and which seek to protect all prime agricultural land around the City's Sphere of Influence.

1.1.e Explore techniques to preserve areas of significant agricultural soils, aircraft noise and safety zones, buffers between cities, scenic areas, etc. from incompatible urban development.

The City's growth has been directed mostly to the north and south for many years by general plan policy in order to protect agriculturally-significant lands and/or aircraft noise and safety zones to the City's east and west from incompatible urban development. The City should work in cooperation with the Merced County Farm Land and Open Space Trust and Merced County to explore alternatives for assuring the continued preservation of these areas, including transfer of development rights, agricultural easements, aircraft approach protection easements, etc.

(Chapter 7--Open Space, Conservation, & Recreation contains additional policies (Policy OS-2.1) regarding the preservation of agricultural land.)

Policy UE-1.2

Promote a Compact Urban Form.

Through the promotion of compact urban form, the City of Merced can achieve several important environmental and community planning goals. Through the concentration of urban development within the City's SUDP, impacts on surrounding agricultural resource lands can be reduced and important prime soils preserved. Additionally, through compact urban development, efficient public transit systems can operate to protect the regions air quality. Compact urban development also reduces public infrastructure development and maintenance costs to the City and its residents.

Implementing Actions:

1.2.a Encourage development on in-fill sites by amending the Zoning and Subdivision Ordinances to better accommodate such requests.

There are areas within the existing incorporated limits of the city which are undeveloped or under-developed. These areas provide development opportunities which will somewhat relieve the need to expand the city's urban limits. Many of these sites are vacant and/or undeveloped due to their unique site constraints. A review and possible revision of City policies and standards, relative to these sites is appropriate. Redevelopment is also a tool that can be used to encourage in-fill development in the Downtown and Gateways Redevelopment Areas (see Chapter 3).

1.2.b Work with Merced County to ensure that existing unincorporated Rural Residential Centers in the Merced area are not expanded and no new Rural Residential Centers are established.-

A large Rural Residential Center is currently located along the east side of the City's SUDP west of Lake Road along with a small RRC along Highway 140 west of the City's SUDP (Massasso Road). RRC's are not efficient uses of land and have not proven to be ideal buffers between urban and agricultural uses. Existing RRC's can remain but should not be enlarged and no new RRC's should be established in accordance with County (and City) General Plan policy and provisions of the City/County Property Tax Sharing Agreement (Section 2.3.4). The City will work with the County on service issues relating to the RRC's. Industrial and business park development do provide good buffers adjacent to agricultural land and are designated along the City's proposed new SUDP to the west, south, and east (south of Highway 140).

1.2.c Continue to limit the expansion of City utilities to only those within an established urban expansion boundary.

Proposals for urban development within the City's SUDP shall be considered only after annexation has taken place. To be eligible for annexation, a property must be contiguous to the City Limits and be located within the SUDP. City utilities should not be extended outside of the City limits except in cases where public health and safety are threatened or a significant public interest (such as the UC campus) is served.

1.2.d Promote higher residential densities within the Merced urban area.

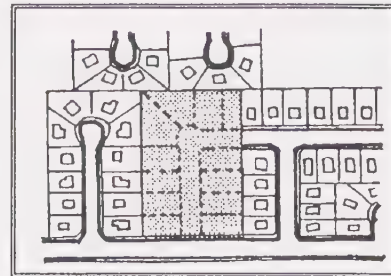
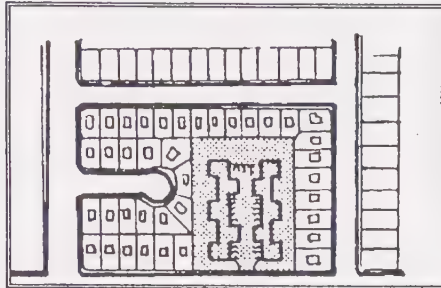
The City will continue to promote the use of higher residential densities, especially small-lot single-family residential and multi-family residential in order to make the most efficient use of land and maintain a compact urban form.

(Chapter 3--Land Use contains additional policies regarding the promotion of a compact urban form.)

Promote Infill Development:

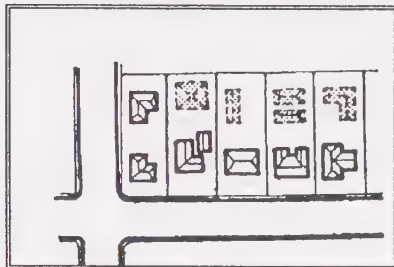
In order to conserve the areas land resources, the City of Merced has established a policy to encourage in-fill development.

The City encourages the use of parcels passed over by new development

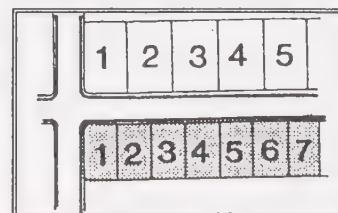
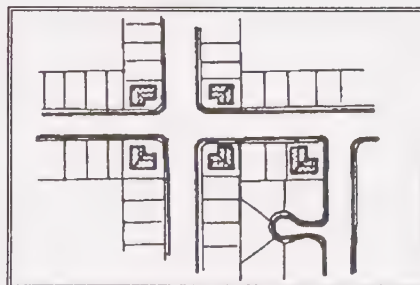
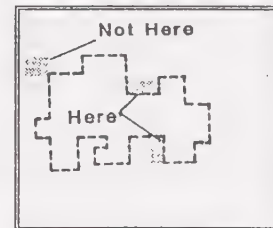


The City may encourage infill development in residential areas by allowing density bonus for quality residential projects on appropriate infill parcels.

The City will review annexation proposals with the intent of encouraging development of contiguous areas with existing services.



City Policy may allow new development on the unused portion of existing large lots.



Reduced minimum lot sizes and the allowing of duplex type development on selected corner lots in new single family subdivision promote infill development efforts.



Figure 2.7

Infill Development

Policy UE-1.3

Control the Annexation, Timing, Density, and Location of New Land Uses Within the City's Urban Expansion Boundaries.

Implementing Actions:

- 1.3.a The City should require that all new urban development and annexations be contiguous to existing urban areas and have reasonable access to public services and facilities.**

"Leap-frog development" tends to be cost-prohibitive in these times due to the high up-front costs of extending utility lines, streets, etc., across undeveloped properties to outlying areas. Such development should be discouraged in most cases because of the service inefficiencies it creates. Exceptions can be made for industrial areas which for business recruitment reasons often need to provide infrastructure and services prior to development. Other exceptions may be made, with strong justification on a case-by-case basis, for other areas which may serve the public interest through early development.

- 1.3.b The City should adequately plan for public improvements/services to support designated land uses for all areas as they become suitable for development and/or proposed for annexation.**

The City should prepare master plans for providing sewer, water, fire protection, police protection, drainage, and other services for all new growth areas after the adoption of the General Plan. Refer to Chapter 5--Public Services and Facilities for specific policies regarding each of these areas.

- 1.3.c The City should develop systems to evaluate the cost of providing various services to new development and/or areas proposed for annexation and establish clear policy for meeting those costs.**

The City needs to develop appropriate tools and techniques for evaluating the fiscal impacts of new development, including the costs of providing services and needed infrastructure. Policies (such as those contained in the Public Services and Facilities Chapter of this plan) need to be established to insure that new development pays for the impacts it causes, so that the burden does not fall on current City residents.

- 1.3.d The planning for land uses in newly developing areas should reflect a mix of land uses which will support a neighborhood, including a variety of residential densities and price ranges, neighborhood and convenience shopping facilities, and public facilities such as schools and parks.**

The City will promote the use of the mixed-use, pedestrian- and transit-friendly neighborhoods ("Urban Villages") in all new growth areas of the City as much as feasible.

- 1.3.e Work with the County to implement the land use provisions of the "Property Tax Sharing Agreement between the City of Merced and the County of Merced" (Section 2.3.4).**

The City will work closely with the County to implement the land use provisions of the agreement, which include a) maintenance of existing agricultural zoning within the SUDP; b) requirements and procedures for areas currently zoned for urban development; c) agreement by the County not to expand the existing Rural Residential Centers in the Sphere of Influence outside the University SUDP; and, d) cooperative planning and referral of projects within the University Community SUDP.

1.3.f Evaluate future annexation requests against the following conditions:

- a) Is the area contiguous to the current City limits and within the City's Specific Urban Development Plan (SUDP)?
- b) Is the proposed development consistent with the land use classifications on the General Plan Land Use Diagram (Figure 3.1)?
- c) Can the proposed development be served by the City water, sewer, storm drainage, fire and police protection, parks, and street systems to meet acceptable standards and service levels without requiring improvements beyond which the developer will consent to provide?
- d) Will this annexation result in the premature conversion of prime agricultural land as defined on the Important Farmland Map of the State Mapping and Monitoring Program? If so, are there alternative locations where this development could take place without converting prime soils?
- e) Will a non-agricultural use create conflict with adjacent or nearby agricultural uses? If so, how can these conflicts be mitigated?

Future annexation requests will be evaluated against the above criteria as well as against the Policies and Implementing Actions of the *Merced Vision 2015 General Plan*, including but not limited to the following:

- a) Urban Expansion Policies--UE-1.1, UE-1.2, UE-1.3, and UE-1.7.
- b) Land Use Policies--L-1.1, L-2.1, L-2.7, L-3.1, and L-3.2.
- c) Transportation and Circulation Policies--T-1.1, T-1.3, T-1.8, T-2.2, and T-2.4.
- d) Public Facilities and Services Policies--P-1.1, P-1.2, P-1.3, P-2.1, P-3.1, P-4.1, P-5.1, and P-7.1.
- e) Open Space and Conservation Policies--OS-1.1, OS-1.2, OS-2.1, OS-2.2, OS-3.1, and OS-4.1.

Policy UE-1.4

Establish Joint City-County Planning Program on the UC San Joaquin (Merced) Site and Smith Trust Lands.

The UC San Joaquin (Merced) site and Smith Trust Lands will likely become an urban area requiring urban services. Consideration will likely be given to making this area part of the incorporated City of Merced. Cooperative planning efforts will be necessary to ensure the effective development of this area for all interested and affected parties.

Implementing Actions:

1.4.a Incorporate the UC San Joaquin (Merced) campus area and adjacent lands owned by the Cyril Smith and Virginia Smith Trusts as part of the City's Sphere of Influence.

This designation would permit the City to provide services to these areas in the future and would facilitate incorporation of the campus into the City if this is determined to be appropriate at a later date. This designation would also require, by State law, that the City be notified of any development proposals in the area and be given a chance to comment on such proposals.

1.4.b Participate in cooperative planning of UC San Joaquin (Merced) and its surrounding lands.

The City will participate with the University of California, the County of Merced, other public agencies, the Cyril and Virginia Smith Trusts, and other land owners in planning of the campus and its surrounding areas. Issues will include the timing of development relative to the UC construction, transportation access to the site, extension of urban services to the site, and possible future annexation to the City of Merced.

1.4.c Work closely with the University of California and the County of Merced in development of the UC San Joaquin (Merced) Campus Plan and provide assistance in the expansion of infrastructure to service the site as required.

City staff will provide technical support to campus planners in the coordination of infrastructure expansion to serve the site. Areas to be addressed will include, but are not limited to:

- a) extension of public transit service to the site;
- b) provision of sewer and water to the site as required;
- c) development of public protection facilities and expansion of public protection services to the site as necessary;
- d) coordinated development of site access streets, public transportation systems, etc., as required, and
- e) cooperate in the development of other necessary campus support facilities, such as flood control and drainage facilities, extension of power, gas and telecommunications infrastructure, etc.

Policy UE-1.5

Work with Merced County and the City of Atwater to Establish a Greenbelt Area Between the Cities of Atwater and Merced.

It is the long-standing policy of both the City of Atwater and the City of Merced that a non-urbanized buffer area be established between the two cities.

Implementing Actions:

1.5.a Establish a “Greenbelt” area between the City of Merced and the City of Atwater.

The City of Merced will propose to the City of Atwater and the County of Merced that a “greenbelt” be established. This process should include the establishment of a set of goals and policies for the Greenbelt area as well as definition of more precise boundaries. The major goal should be the preservation of this area as a permanent agricultural/open space area. Consideration should be given to involving the Merced County Open Space and Farmland Trust in the preservation of this area through the use of agricultural easements, the purchase of development rights, etc.

1.5.b Designate the Greenbelt area as an “Area of Interest” in accordance with policies contained in the Merced County General Plan.

The Greenbelt area will be designated as an “Area of Interest” (see definition in Section 2.6.3) in the City of Merced General Plan and as such, would be considered appropriate for agricultural use exclusively except for areas where substantial urban development (i.e. the Franklin-Beachwood SUDP) already exists. The City should then encourage the City of Atwater and Merced County to include such a designation in their General Plans as well.

Policy UE-1.6

Preserve the “Northern City” Urban Expansion Area for Anticipated Growth Needs Beyond the Year 2015.

The “Merced 2030 Plan” identified the most appropriate long-term growth option for the City to follow-- the “Northern City” alternative. This area is necessary for the growth of the City beyond the 2015 planning horizon of the General Plan. This future urban expansion area needs to be protected from premature and scattered “suburban” development which may result from development of the UC San Joaquin (Merced) Campus in the area.

Implementing Actions:

1.6.a Develop a cooperative planning program with the County of Merced for review of development proposals submitted in the “2030 Plan” expansion area.

The City of Merced and the County of Merced may establish a set of development goals and policies for this area. These policies would serve as guidelines for development proposed in this unincorporated area and subject to City of Merced and County of Merced review procedures.

1.6.b Designate the “2030 Plan” expansion area as an “Area of Interest” in accordance with policies contained in the Merced County General Plan.

The “Merced 2030” expansion area is proposed as an “Area of Interest” in the Merced City General Plan and, as such, should be considered appropriate for agricultural use exclusively except for areas where substantial urban development exists. The City of Merced should request that the Merced County General Plan be modified to reflect the City’s policy regarding this area. Boundaries will also need to be defined.

Policy UE-1.7

Promote Annexation of Developed Areas Within the City's Specific Urban Development Plan (SUDP) During the Planning Period.

Unincorporated suburban development within the City's SUDP has resulted in problems of public protection (police and fire) service delivery to residents in addition to posing potential long term problems to residents with respect to maintenance of on-site water systems and wastewater disposal (septic) systems. Such problems could also threaten the City's future water quality. Also, residents of these areas, while directly impacted by the City's planning decision making process, have no direct voice in municipal affairs. In the long-term interest of both the City and the residents, these unincorporated suburban areas should be annexed to the City of Merced.

Implementing Actions:

- 1.7.a The City should promote the annexation of unincorporated urban areas within the urban expansion boundaries which cause a duplication of public services and hinder extension of City services to new development.**

To make annexation more attractive to these areas, the City will explore different options regarding the timing and cost of connecting to City sewer and water (perhaps allowing a longer time period than the current code-required six years), the allowance of different public improvement standards, and the establishment of a "rural agricultural overlay" zone for limited areas where the keeping of farm animals may be allowed within the City limits.

- 1.7.b Review relevant City improvement and development policies to remove unnecessary obstacles to incorporation.**

The formation of assessment districts to pay for needed infrastructure improvements should be explored. City policies relative to mandatory connection to the City's sewer and water system should be reviewed. Consideration might be given to establishment of policies which would allow residents, presently served by private sewer and water systems, to remain on these systems unless they pose a problem to public health and safety.

- 1.7.c Provide assistance to residents of unincorporated areas to address public health and safety concerns of on-site water and sewer systems.**

The City may assist residents with coordinated expansion of utility service, where desired by the residents, and in support of an annexation petition.

- 1.7.d Review and revise zoning standards which restrict limited agricultural uses on large-lot residential development.**

City "Rural Residential" zoning standards should be developed to reflect the County "Rural Residential" standards of use, including the keeping of animals for 4-H purposes.

- 1.7.e Provide information to interested unincorporated area residents on the benefits of annexation.**

The City can develop and distribute information to county residents within the SUDP on the pros and cons of annexation, including comparisons of costs of City vs. County services, taxes (no difference), development standards, etc. City staff can attend meetings with neighborhood groups in unincorporated areas to explain the annexation process and City policy regarding annexing unincorporated areas.

2.6 REGIONAL PLANNING ISSUES

2.6.1 UC San Joaquin (Merced)

A 2,000-acre site near Lake Yosemite has been chosen to become the 10th University of California campus. Development of the site is expected to occur after the year 2000 with the first students enrolling in the year 2005. By the year 2010, campus population is expected to reach 4,300 students and 1,700 staff for a total population of 6,000 people. The campus is expected to reach its ultimate capacity of 25,000 students and 9,200 employees by the year 2035.

Approximately 1,000 acres of the campus site is expected to be used for classrooms and instructional laboratories, faculty offices, libraries, research facilities, administrative offices, student services, performing arts, athletic and recreation facilities, a student center, on-campus housing, food services, support services, and parking. The balance of the site would be held in reserve for future development and expansion.

The site is situated northeast of the present city limits of Merced, near Lake Yosemite. The site is directly adjacent to the planned 2030 expansion area for the City.

In December 1996, the County amended its General Plan to include a "University Community Specific Urban Development Plan (SUDP)" as illustrated in *Figure 2.8*. This area covers approximately 10,000 acres and includes the 2,000-acre UC campus site and the Cyril and Virginia Smith Trust properties. Lands

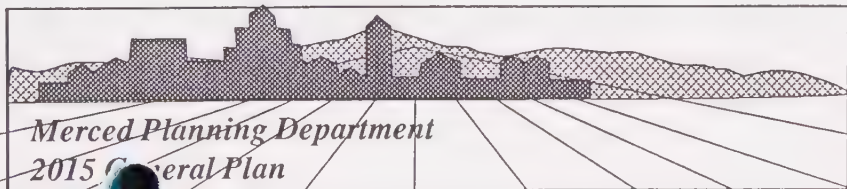
within the area will be designated "University Community Urban Reserve" and zoned agricultural until designated for future urban use. Within the University Community SUDP, a cooperative planning concept, which will include the City of Merced, would be implemented in order to develop a comprehensive plan for the area.

Within a larger "UC Campus Study Area," general plan amendments/rezonings would be denied if determined to be detrimental to the coordinated, orderly development of the UC Community SUDP, and right-of-way would be preserved along possible access routes to the University. The UC Campus Study Area covers 56 square miles bounded by G Street to the west, Yosemite Avenue to the south, the section line eight miles east of G Street to the east, and the section line seven miles north of Yosemite Avenue to the north (*Figure 2.8*).

2.6.2 Castle Re-Use Planning

In April 1991, Castle Air Force Base (CAFB) (approximately four miles northwest of Merced) was one of the bases recommended for closure by the Defense Base Closure and Realignment Commission. The Commission's recommendations were accepted by the President, submitted to Congress in July 1991, and became law. Castle Air Force Base was officially closed on September 30, 1995 after over 50 years of service.

*University Community SUDP
& UC Study Area*



Soon after the announcement of the closure, the Castle Joint Powers Authority (JPA) was formed. The JPA was formed by Merced County and the cities of Atwater and Merced as a multi-jurisdictional authority responsible for planning the civilian reuse and development of Castle and for managing closure and post-closure activities. Each jurisdiction is represented on the JPA by two appointed members from the two city councils and the County Board of Supervisors.

In 1996, a Castle Reuse Plan was adopted. This plan calls for the development of a variety of public and private uses, including aviation and industrial uses, the existing Castle Air Museum, the Challenger Learning Center, a federal prison, and various commercial and business park uses. Also in 1996, the renamed Castle Airport Aviation and Development Center received was designated as a Local Agency Military Base Recovery Area (LAMBRA), which qualifies businesses locating at Castle for state tax credits and incentives.

Issues as yet unresolved regarding Castle reuse include the cleanup of toxic waste problems, the noise impacts of future aviation uses on the City of Merced, and the eventual annexation of Castle to the City of Atwater. The City of Merced will continue its role in the JPA to ensure that these and other issues are resolved.

2.6.3 Merced-Atwater Greenbelt

The cities of Merced and Atwater have always maintained unique and separate identities despite their close proximity to one another (approximately 5 miles) and their connection via two main circulation

corridors, Highway 99 and Santa Fe Drive. It has been the long-term desire of the residents and elected officials of both cities that Merced and Atwater retain their separate identities into the future. One of the ideas that has been around for many years for insuring this is the formation of a “greenbelt” or open space corridor between the two cities, but nothing has ever been finalized.

The noise and safety hazards associated with the Castle Air Force Base flight path has for many years made development north of Santa Fe Drive between Merced and Atwater undesirable. With the closure of Castle, those constraints will likely disappear and pressure may develop to allow urban development in that area. Urban development has certainly taken place in the Franklin-Beachwood SUDP area located between Merced and Atwater along Highway 99, where similar constraints did not exist.

It would appear to be time to establish an official “greenbelt” between Merced and Atwater. The City is, therefore, proposing to work with the City of Atwater and the County to designate an area between Merced and Atwater as an “Area of Interest” in the General Plans of both cities and the County.

An “Area of Interest” is defined in the Merced County Year 2000 General Plan as:

“land which is outside the SUDP and is not currently planned for annexation or city service delivery, but which is proximate to city territory. Development in these areas may impact long-term city planning and development efforts. Land use activities in these Areas of Interest are generally limited to agricultural and open space uses, except for areas where substantial urban development exists.”

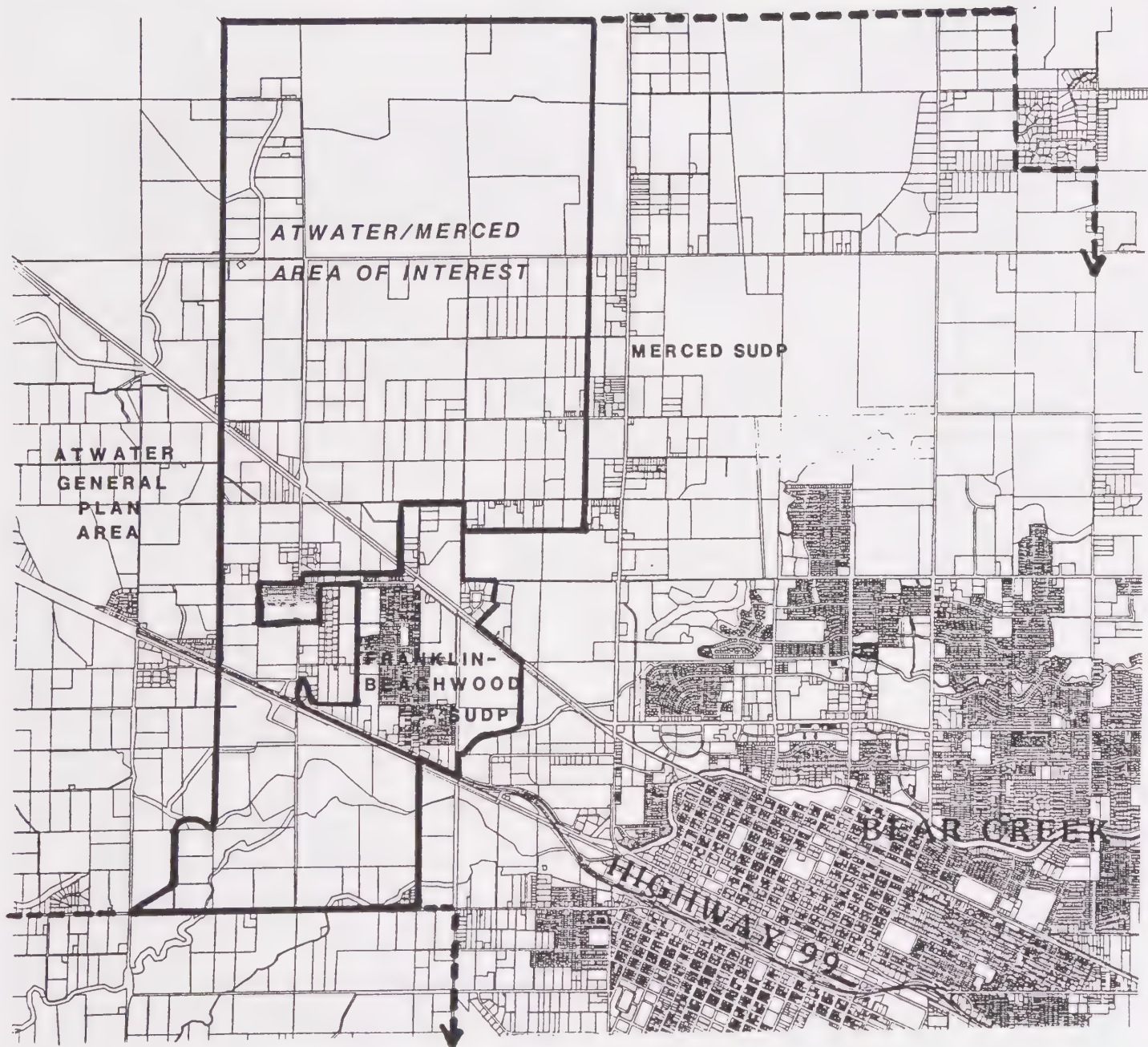
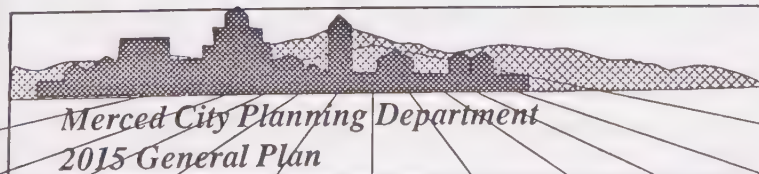


Figure 2.9

Merced-Atwater
Area of Interest



Within a designated “Area of Interest,” the 1981 City/County Resolution of Agreement called for the County to notify the City of all requests to intensify the use of undeveloped properties, to maintain agricultural zoning in undeveloped areas, and to maintain a 20 acre minimum parcel size. Since the 1997 City/County Tax Sharing Agreement replaced the previous agreement and it does not address Areas of Interest, restrictions on land use or parcel sizes will be subject to new negotiations between the City and the County.

Tentative boundaries for this “Merced-Atwater Area of Interest” (*Figure 2.9*) could generally be Fox Road/Trindade Road on the west, a line 1/2 mile north of Old Lake Road on the north, Merced’s planned new SUDP line west of Highway 59 to the east, and Highway 140 to the south, excluding the Franklin-Beachwood SUDP area. Precise boundaries will be defined as part of the planning process between the two cities and the County.

The purpose of this planning area will be to designate the land for permanent agricultural use and to devise ways to help maintain it as such. Consideration should be given to involving the Merced County Open Space and Farmland Trust in the preservation of this area.

2.7 ISSUES FOR FUTURE STUDY

2.7.1 Merced 2030 Expansion Area

The General Plan Study Area was designed to cover approximately 20 years of City growth along with adjacent agricultural or open space lands which should be preserved. This study area

formed the basis for the City’s expanded SUDP/SOI.

There are other areas outside our SUDP or Sphere of Influence, however, in which the City has an interest. The *Merced 2030* “Northern City” area represents the City’s prospective growth area for the 20 to 30 years after 2015.

This “Area of Interest,” situated north of Old Lake Road, will likely form the basis for the next General Plan Update. This area contains the Merced County Landfill on its westerly boundary and extends beyond La Paloma Road to the north and east around the UC San Joaquin (Merced) Campus site. These boundaries, which will need to be more precisely defined, generally correspond to the area north of the proposed SUDP illustrated in *Figure 2.1* in Section 2.2.2.

Special concern and consideration should be given to this area to assure its availability for Merced City urban expansion beyond the year 2015. Ideally, it should remain in mostly agricultural use until the City SUDP area has developed.

2.7.2 Agricultural Land East of Lake Road

The agricultural areas north of Highway 140 and east of Lake Road and Lake Road (extended) are not included in the City’s SUDP or Sphere of Influence. However, the City does retain an interest in seeing that this area remains agricultural. The City has for many years sought to direct urban development away from this area in order to preserve its prime agricultural soils.

The City will work with Merced County to establish policies to protect these areas

from urban development. This process should include: a) exploring agricultural preservation techniques as part of the UC Campus Parkway corridor planning in order to establish a limited access parkway; b) possible designation of an “Area of Interest” or other process to require referral for comment to the City of any proposed development projects within a to-be-established boundary; and, c) limiting the expansion of the existing Rural Residential Centers into the area east of Lake Road outside of the University Community SUDP.

2.7.3 Joint Planning of the Highway 59 Corridor

The City has proposed to develop an employment corridor with a mix of commercial, industrial, and business park

uses along the Highway 59 expressway within the City’s proposed SUDP. This area, which is mostly unincorporated, already contains some light industrial type uses. A conceptual design of the expressway corridor (Section 4.7.2) calls for these and future businesses to be served by frontage roads in order to maintain limited access on the expressway.

More detailed planning of this corridor will be necessary, however, to resolve such issues as needed right-of-way, frontage road configuration, etc. It is the City’s intention to involve the County as well as Caltrans in the planning of this important employment and circulation corridor.

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(5/29/97)



Chapter 3

Land Use

3.1 INTRODUCTION AND AUTHORIZATION

The Land Use Chapter of the *Merced Vision 2015 General Plan* establishes land use goals and policies, supported by implementation actions, for the manner in which new development will occur and existing uses and resources will be preserved in the City of Merced. The future land use configuration of the City will be shaped through the implementation of this chapter. Since it regulates how land is to be utilized, most of the issues and policies contained in all other plan chapters are integrated and synthesized by this chapter.

Goals, policies and action programs of the Land Use Chapter are intended to support and reinforce the current quality of life in the City. The Chapter accomplishes this through the Land Use Diagram, narrative text, and quantifying tables. The key element of Land Use policy is the General Plan Land Use Diagram (*Figure 3.1*—included in a pocket at the back of this document), which depicts the location of the permitted type and density/intensity of all land uses within Merced's SUDP. The land use policies contained in this Plan establish order and focus for the City's

land use pattern and provide the framework for future land use planning and decision making in the City of Merced.

Government Code Section 65302(a) requires that a General Plan include a Land Use Element which designates the "general distribution and general location and extent of various types of land uses." The Land Use Element also needs to include a statement of "the standards of population density and building intensity" for the various districts and other territory covered by the General Plan.

The *Merced Vision 2015 General Plan* Land Use Chapter covers four major issue areas:

- 1) **Residential Neighborhoods** (Section 3.4)—dealing with the preservation of existing neighborhoods and future neighborhood planning;
- 2) **Economic Environment** (Section 3.5)—covering economic development and commercial and industrial land uses;
- 3) **Urban Growth and Design** (Section 3.6)—outlining mixed-use and transit-oriented concepts to be applied in the City's new growth areas; and
- 4) **Specific Plans/Master Development Plans** (Section 3.7)—discussing the City's four adopted and four proposed specific plans.

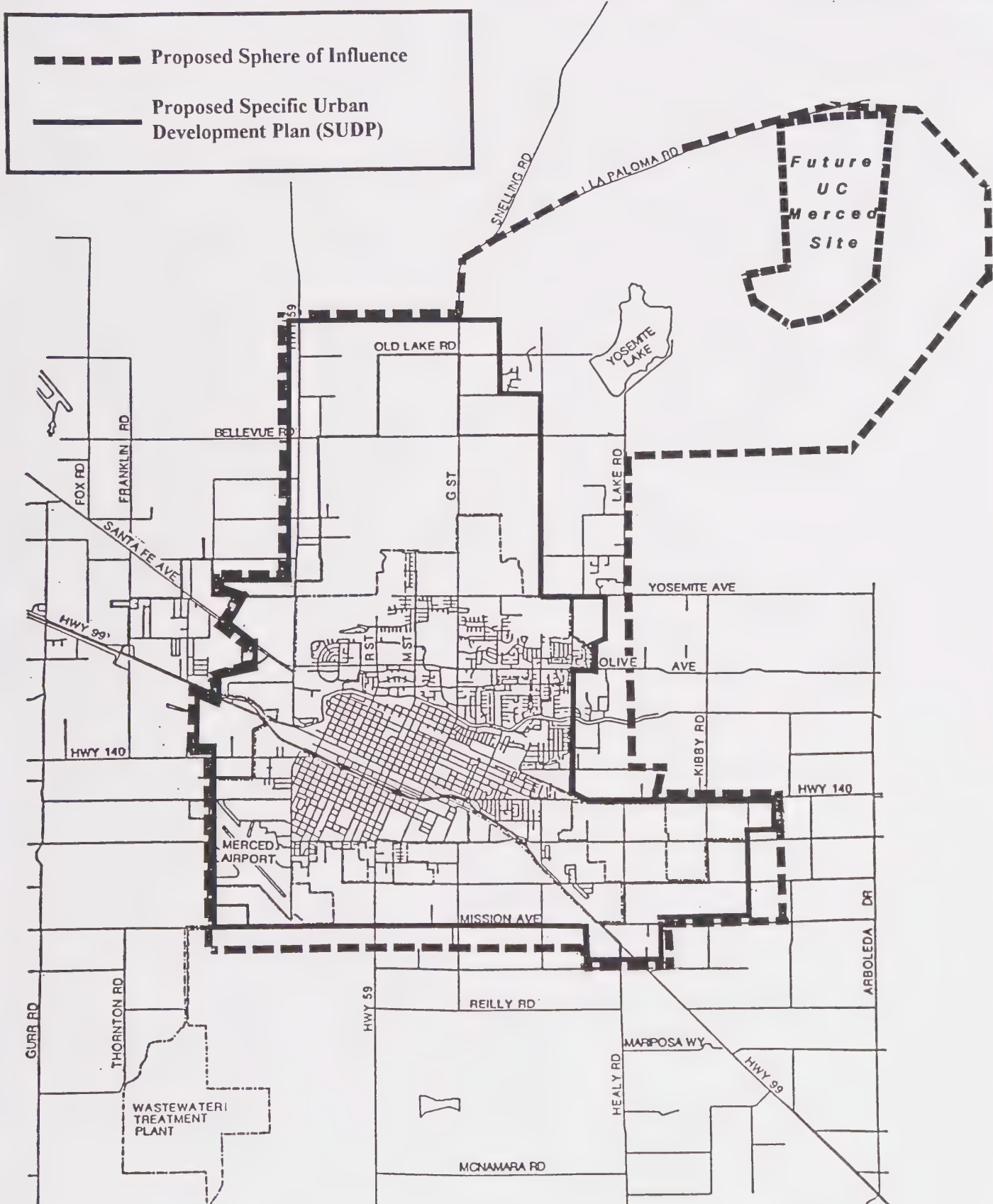


Figure 3.2

*Proposed Sphere of Influence
and
Specific Urban Development Plan (SUDP)*



3.2 SETTING

The Merced City expanded Sphere of Influence encompasses approximately 35,000 acres (or 55 square miles), covering the City of Merced, the City's expanded Specific Urban Development Plan (SUDP) area, the County Rural Residential Centers west of Lake Road, and the Joint City/County/UC Planning Area. Other areas that were not considered for urban development are also included because of their relationship to major transportation corridors.

The expanded SUDP area includes 20,540 acres and is generally bounded by a line 1/2 mile north of Old Lake Road to the north, Parsons Avenue and McKee Road to the east, Mission Avenue to the south and Highway 59 and Thornton Road to the west. (*Figure 3.2* illustrates the City's expanded Sphere of Influence and SUDP).

Regional access to the City is provided by State Highways 99, 59, and 140. Highway 99 is a major roadway linking southern California with the northern portions of the state and the Pacific Northwest. Highways 140 and 59 provide linkages to Interstate 5, another north-south transportation corridor in the state. Highway 140 to the east also serves as one of the principal access points to Yosemite National Park and the Sierra recreation areas to the east.

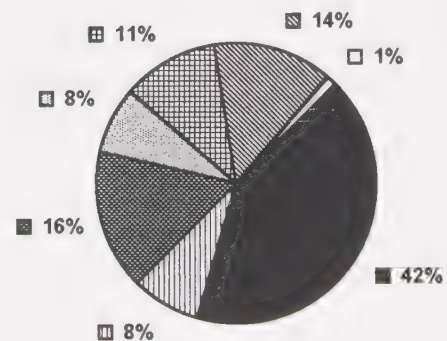
The City of Merced was founded as an agricultural community and continues to be an important agricultural center. It also serves as the Merced County seat of government and a regional service center, providing a variety of retail goods

and services, health care services, etc. for the surrounding area.

In 1992, a land use/zoning inventory of the City disclosed that 4,500 acres (42%) of the incorporated City area was designated for low-density residential uses. Multi-family residential uses occupied an additional 900 acres (8%) in the City. Industrial land occupied 1,750 acres (16%) with commercial areas occupying an additional 900 acres (8%). Planned developments with a mixture of commercial and residential uses occupied 1,200 acres (11%). Parks and open space occupied an additional 1,500 acres (14%) with the balance of the area (1%) used for public uses such as streets and roads, public buildings, etc. See *Figure 3.3*.

Figure 3.3

*City of Merced
Land Use Distribution
1992*



- Single-Family Residential
- ▤ Multi-Family Residential
- ▥ Industrial
- ▦ Commercial
- ▧ Mixed-Residential & Commercial
- ▨ Parks and Open Space
- Public

3.3 LAND USE PLAN IMPLEMENTATION

The Land Use Element is implemented primarily by means of the development review process and the required general plan consistency findings which are required for various types of discretionary development permits in California.

3.3.1 The Land Use Diagram

The City's Land Use Diagram (*Figure 3.1*), which is attached separately at the back of this document, is an integral part of the General Plan. The Land Use Diagram presents the proposed general distribution of the uses of land within the City of Merced and its SUDP. The word "Diagram" is distinguished from "Map" in the context of a California Attorney General Opinion (67 OPS.CAL.ATTY. GEN.75 (3/7/84)) to provide a certain limited degree of flexibility in applying the Land Use Designations to specific parcels of land. A "diagram" shows the approximate arrangement of and relationships between land uses rather than the precise location and detailed boundaries of land uses which a "map" (like a zoning map) would show.

The diagram and text together specify the number of people and dwelling units per net acre of land for each property planned for residences, and the building intensity for all other proposed development. This building intensity is expressed in terms of a floor area ratio, which is the gross floor area permitted on a site divided by the total net land area of the lot. Other pertinent features of the Land Use Diagram include the locations of existing and proposed parks,

public schools, and other public facilities such as fire stations.

3.3.2 Land Use Development Capacity

Within the Merced SUDP, sufficient land has been set aside to accommodate the City's projected growth needs through the year 2015. Additional growth capacity has been accommodated in the SUDP to minimize the potential adverse effects of creating a limited urban land inventory.

When projecting growth needs in future years, it is recognized that circumstances may arise which could not be reasonably predicted. Growth may occur at a more rapid or at a much slower pace than projected. The Merced City General Plan has been prepared to accommodate the most optimistic growth projections to assure that adequate infrastructure can be planned for optimum buildout of the City.

At the same time, annexations of unincorporated areas within the SUDP are to be reviewed in light of available infrastructure such as streets, sewer collection lines and capacity, water system capacity, storm water drainage systems and other necessary infrastructure needs.

Table 3.1 compares the distribution of planned land uses on *Figure 3.1*, the Merced Vision 2015 Land Use Diagram, with the 1981 General Plan Land Use Diagram. These acreage figures were calculated by the Merced County Association of Governments in 1995.

Table 3.1

Merced Planned Land Use Summary

(1981 General Plan SUDP vs. 2015 General Plan SUDP)

Land Use Classification	1981 General Plan SUDP		2015 General Plan SUDP		Percent Change
	Acres	% of Total	Acres	% of Total	
RR (Rural Residential)	370	2.3%			
AG (Agriculture)	220	1.3%			
<i>Total Agricultural Residential</i>	<i>590</i>	<i>3.6%</i>	<i>500</i>	<i>2.4%</i>	<i>-16.0%</i>
LD (Low-Density Residential)	6,030	37.1%			
LMD (Low-Medium Density)	870	5.4%			
<i>Total Single-Family Residential</i>	<i>6,900</i>	<i>42.5%</i>	<i>9,930</i>	<i>48.3%</i>	<i>44.0%</i>
HMD (High-Medium Density)	830	5.1%			
HD (High Density Residential)	90	0.6%			
RMD (Residential Mobile Home)	140	0.9%			
<i>Total Multi-Family</i>	<i>1,060</i>	<i>6.6%</i>	<i>1,240</i>	<i>6.0%</i>	<i>16.2%</i>
P/G (Public/Government)	480	3.0%			
CO (Commercial Office)	320	2.0%			
<i>Total Office</i>	<i>800</i>	<i>5.0%</i>	<i>1,100</i>	<i>5.4%</i>	<i>38.3%</i>
IND (Industrial)	1,820	11.2%	2,800		
IND-R (Industrial Reserve)	630	3.9%	120		
<i>Total Industrial</i>	<i>2,450</i>	<i>15.1%</i>	<i>2,920</i>	<i>14.2%</i>	<i>18.9%</i>
BP (Business Park)	0	0.0%	620		
BP-R (Business Park Reserve)	0	0.0%	280		
<i>Total Business Park</i>	<i>0</i>	<i>0.0%</i>	<i>900</i>	<i>4.4%</i>	<i>n/a</i>
CG (General Commercial)	380	2.4%			
CN (Neighborhood Commercial)	140	0.9%			
CT (Thoroughfare Commercial)	180	1.1%			
HC (Heavy Commercial)	120	0.7%			
CC (Regional/Community)	570	3.5%			
<i>Total Commercial</i>	<i>1,390</i>	<i>8.6%</i>	<i>1,660</i>	<i>8.1%</i>	<i>18.9%</i>
PK (Open Space/Park)	450	2.8%			
PKY (Parkway)	180	1.1%	(Note)		
<i>Total Open Space</i>	<i>630</i>	<i>3.9%</i>	<i>1,490</i>	<i>7.3%</i>	<i>134.0%</i>
<i>Total School</i>	<i>540</i>	<i>3.3%</i>	<i>800</i>	<i>3.9%</i>	<i>49.2%</i>
<i>Total (UEA) Urban Expansion Area</i>	<i>1,860</i>	<i>11.4%</i>	<i>0</i>	<i>0.0%</i>	<i>n/a</i>
TOTAL SUDP AREA	16,220	100.0%	20,540	100.0%	26.5%

Note: Open Space Inventory for the 2015 SUDP includes arterial street rights-of-way)

Source: Figure 3.1-Land Use Diagram as calculated by Merced County Association of Governments

3.3.3 Summary of General Plan Land Use Designations

The Land Use chapter establishes the proposed general distribution and extent of land uses within the City of Merced and its SUDP. This section contains the Land Use Diagram and a summary of the Land Use Designations for the *Merced Vision 2015 General Plan*. (More detailed definitions can be found in Section 3.9.) This section was developed in compliance with Section 65302(a) of the California Government Code.

The following Land Use Designation descriptions define the Land Use Areas depicted on the Land Use Diagram of this General Plan. These General Plan Land Use Designations describe the extent of the uses of land within the Merced Urban Planning Area including standards of population density and building intensity (**Table 3.2**) as required by Section 65302(a) of the California Government Code.

RESIDENTIAL

RR (Rural Residential) [1 to 3 dwelling units per acre (du/ac)]

To provide single family homes on large lots in a semi-rural environment, and as a buffer between agricultural land and other environmentally sensitive or resource areas and the City's urbanized areas.

LD (Low Density Residential) (2 to 6 du/ac)

To provide single family residential dwellings served by City services throughout the City. Primarily single-family detached housing, but options such as condominiums and zero-lot-line units can be developed.

LMD (Low-Medium Density Residential) (6 to 12 du/ac)

To provide duplexes, triplexes, four-plexes, condominiums, zero-lot-line as well as single-family detached units on appropriately sized lots.

HMD (High-Medium Density Residential) (12 to 24 du/ac)

To provide areas for multi-family development such as apartments, higher density triplex/fourplex units and condominiums.

HD (High Density Residential) (24 to 36 du/ac)

To provide for the highest multi-family residential densities typically found only in limited areas of the City.

RMH (Mobile Home Park Residential) (6 to 10 du/ac)

To provide designated areas within the City for the establishment of Mobile Home Park residential environments.

VR (Village Core Residential) (7 to 30 du/ac for a minimum average of 10 du/ac)

To provide for the development of mixed-use, medium-density urban "village" centers in the undeveloped portions of the Merced SUDP.



COMMERCIAL

CO (Commercial Professional Office)

To provide for a wide range of office commercial uses within the City. The array of relatively small-scale office activities range from professional uses (such as medical, dental, law, engineering, counseling, and architecture) to typical commercial/business office activities like real estate agencies and insurance agencies, financial institutions (banks, and savings and loans), and travel agencies.



CN (Neighborhood Commercial)

To provide sites for retail shopping areas, primarily in shopping centers, containing a wide variety of businesses including retail stores, eating and drinking establishments, commercial recreation, auto services, etc., to serve residential neighborhoods.

CV (Convenience Commercial)

To provide sites for small 1- to 5-acre centers with mini-markets, fast food restaurants, small specialty shops, video rentals, coin laundries, beauty salons, and small professional offices, to serve convenience shopping needs of the surrounding neighborhood.



RC (Regional/Community Commercial)

To provide community and regional commercial centers to serve the full depth and variety of retail goods, general merchandise, apparel, and home furnishings, with one or more major department stores as key tenants.

CT (Thoroughfare Commercial)

To accommodate auto-oriented commerce and the needs of people traveling on highways. Large recreational facilities and some "heavy commercial" uses are also common. Typical uses include motels, gas stations, truck stops, restaurants, automobile sales, auto repair shops, bowling alleys, driving ranges, skating rinks, souvenir shops, carwashes, and plant nurseries.

CG (General Commercial)

To provide areas for general commercial uses which are land-intensive commercial operations, involving some light manufacturing, repair, or wholesaling of goods. Typical activities include lumberyards, automobile wrecking yards, farm equipment or mobile home sales, and building supplies and machine shops.

INDUSTRIAL

IND (Industrial)

This designation provides for the full range of industrial activities, including but not limited to manufacturing, food processing, trucking, packing, and recycling, as well as related office and production facilities.

BP (Business Park)

To provide areas for a mix of commercial, office, and industrial uses with shared access and parking facilities. Uses could include a wide variety of light manufacturing, warehousing, office and service business activities.



RESERVE

RES-R (Residential Reserve)

To provide areas for future urban density residential expansion within the Merced SUDP. This classification, along with the other reserve classifications described below, is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.

COM-R (Commercial Reserve)

To provide areas for future commercial expansion within the Merced SUDP.

IND-R (Industrial Reserve)

To provide areas for future industrial expansion within the Merced SUDP.

BP-R (Business Park Reserve)

To provide areas for future business park expansion within the Merced SUDP.

AI (Area of Interest)

In accordance with the Merced County General Plan, this designation is applied to areas located outside the City's SUDP proximate to City territory, but not currently planned for annexation or City service, whose development may impact City planning efforts.

OTHER

P/G (Public/Government)

To provide public facilities such as schools, fire stations, police stations, public buildings (libraries, courthouse, public offices, etc.) and similar types of public uses and facilities.



OS-PK (Open Space-Park/Recreation)

To provide public and private open space for outdoor recreation both passive and active. OS-PK areas may be designated in areas containing public parks, golf courses, greens, commons, playgrounds, landscape areas and similar types of public and public open spaces.

Table 3.2
Standards of Population Density and Building Intensity

Land Use Designation	Zoning	Residential Density (Units/Gross Acre)	Average Net Floor Area Ratio (FAR)	Residential Average Persons/Housing Unit	Population Person/Acre (Range)
Residential					
Rural (RR)	P-D**	1.0 to 3.0		3.02	3.0-9.1
Low Density (LD)	R-1-5, R-1-6, R-1-10, R-1-20	2.0 to 6.0		3.02	6.0-18.1
Low-Medium Density(LMD)	R-2	6.1 to 12.0		3.02	18.4 to 36.2
High-Medium Density (HMD)	R-3-1.5, R-3-2	12.1 to 24.0		3.02	36.5 to 72.5
High Density (HD)	R-4	24.1 to 36.0		3.02	72.8 to 108.7
Mobile Home Park (RMH)	R-MH	6.0 to 10.0		3.02	18.1 to 30.2
Village Core Residential (VR)	RP-D**	7.0 to 30.0 (Avg. 10.0)		3.02	21.1 to 90.6
Commercial					
Commercial/Professional Office (CO)	C-O		0.50		
Neighborhood (CN)	C-N		0.35		
Convenience (CV)	P-D		0.35		
Regional/Community (RC)	C-C		0.35 to 6.0		
Thoroughfare (CT)	C-T		0.35		
General (CG)	C-G		0.35		
Business Park	P-D**		0.40		
Industrial	I-L, I-H		0.30 to 0.50		
Reserve*					
Residential	A-1-20	2.0 to 6.0*		3.02*	6.0-18.1*
Commercial	A-1-20		0.35*		
Industrial	A-1-20		0.30 to 0.50*		
Business Park	A-1-20		0.40*		
Area of Interest	A-1-20		0.10*		
Other					
Public/Government (P/G)	All				
Open Space-Park/ Recreation Facility (OS-PK)	All		0.10		

*Does not apply until area is redesignated from "Reserve."

**New Zoning District(s) may be created for these land uses.

3.3.4 Development Review Process

Implementation of the land use policies and standards set forth in the *Merced Vision 2015 General Plan* relies primarily on the City's development review process. Within the City's incorporated limits, review of zoning permits, subdivision maps, and other discretionary development/construction permits requires a finding be made that the application or permit is "consistent" with the General Plan.

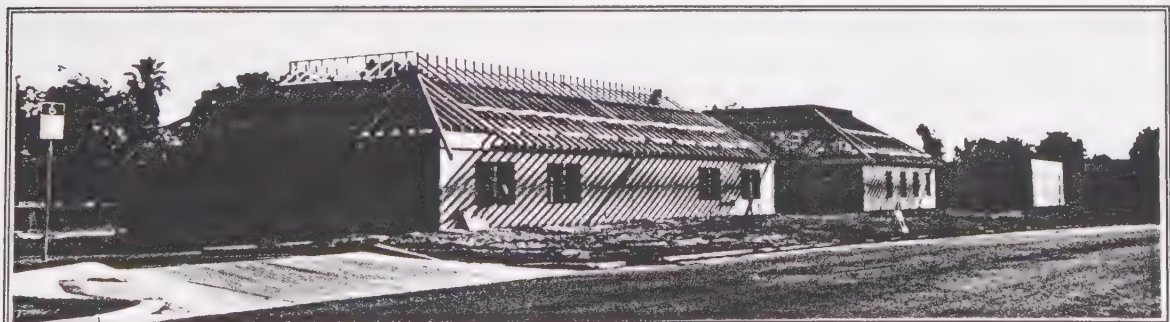
Within the unincorporated areas of the City's SUDP, development permit review must be initiated with an annexation application and is subject to review and approval of the Merced County Local Agency Formation Commission (LAFCO). Within these areas, development shall be generally consistent with the type and extent of land uses described in this Land Use Element.

Within the unincorporated expansion areas of the SUDP, development shall be considered timely only if adequate infrastructure is in place or can be provided within a reasonable time frame relative to the approval of the annexation and development proposal. Consideration should be given to phasing development in such a manner as to assure development of all elements of the land use concept.

Schools and parks should be dedicated concurrent with commercial and residential uses. Furthermore, areas must be set aside for land uses that will be needed in later phases but where market demand needs to mature, such as commercial and higher density housing areas.

"Urban Villages" (Section 3.6.2) represent relatively large projects which typically involve multiple land owners and will need be executed over several years. The phasing of the project is critical to its success, both as a financial undertaking and as a mechanism to encourage transit use. In order to encourage the public service agencies to provide public facilities in a timely manner to serve the needs of residents, developers are asked to dedicate sites designated for public uses concurrent with development of commercial and residential uses. Developers should also work with the City to ensure that the recommended mixture of land uses are achieved in a timely manner.

Development proposals within the unincorporated areas of the City's SUDP and Sphere of Influence will be guided by the terms of the City/County property tax-sharing agreement adopted in 1997, discussed in Section 2.3.4.



3.4 RESIDENTIAL NEIGHBORHOODS

The “neighborhood” is the focus of the residential environment in the City of Merced. Neighborhoods typically reflect various stages of the City’s development over the years. The evolution of the City has resulted in the development of residential areas served by commercial centers which have been traditionally located at the intersections of two arterial streets.

Merced’s neighborhoods tend to be unified by architectural style which reflects the period within which most of the houses in the neighborhood were built. Over the years, planning efforts have attempted to develop “neighborhood” focused schools and recreation facilities. Various housing programs have resulted in rehabilitation of some older residential neighborhood housing and improving neighborhood infrastructure (drainage, sidewalks, streets, etc.).

3.4.1 Background & Scope

The “Neighborhood” focus of the 1981 City General Plan is continued and enhanced in the *Merced Vision 2015 General Plan*. In early Merced City planning efforts, the focus of residential policy was to guide development and maintenance policy with the goal of improving the residential environment or the character of “neighborhood” living environments in Merced.

Housing is a very important issue in the City of Merced, as it is throughout the State. State law establishes housing as a primary concern of planning by means of requiring a Housing Element. Beyond the

requirement of the Housing Element, however, is the City’s overall interest in preserving and enhancing its residential neighborhoods. This focus, past, present, and future, is what makes Merced a “Special Place” to live and work.

The character of Merced is closely related to its older, well established residential neighborhoods. The implementation of Merced’s “Urban Village” concept will guide the development of Merced’s future neighborhoods.

3.4.2 Housing Element

State law establishes minimum requirements for a general plan. The law requires that the plan contain a Land Use Element which focuses on issues of urban design and development, residential densities, and intensities of use. At the same time, the law requires that a city or county adopt a Housing Element.

The Housing Element must be prepared to a very exact standard to comply with state law and focuses primarily on identifying a strategy for meeting the various housing needs in a community and improving the quality of the existing housing stock. Current law calls for the Housing Element to be updated every 5 years. The *City of Merced Housing Element* (Chapter 9) was adopted in late 1992 and will next need to be updated in 2001 (extended from 1997 by act of the State legislature in 1996).

While the Housing Element focuses primarily on the housing stock in a community, this section of the Land Use Element focuses on the residential neighborhoods within which this housing stock is located or is to be developed.

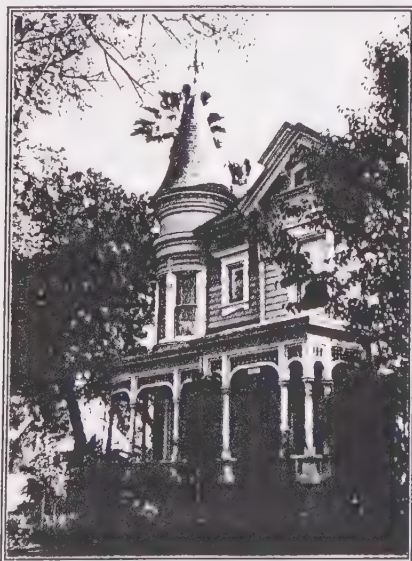
3.4.3 Neighborhood Preservation

Neighborhoods

Neighborhoods are the foundation of the City. Strong, healthy neighborhoods are vital to the overall well-being of the community. A “neighborhood” is a group of homes that share some common identity because of location, building style, density, or the people who live there.

Neighborhoods give people a sense of belonging, of comfort, and of refuge. They allow people to connect with their neighbors informally, to meet others casually, to share interests, and to experience the diversity of cultures, ages, and ways of living that add to the richness of the community.

Physically, neighborhood characteristics usually include a “walkable” area, a mixture of uses that relate to one another—for example, housing and a neighborhood shopping center—and a focal point like a school or park that gives identity to an area.



Each “neighborhood” in Merced has a distinct character, depending on when it was built, the style and mixture of homes, and where it is located. Preserving the individual character of the City’s neighborhoods is an important concern for Merced residents, but there currently exists no formal structure in which this can be accomplished. No formal neighborhood boundaries have ever been established within the City and that makes addressing the concerns of individual neighborhoods more difficult.

Neighborhood Planning

As the City grows and becomes more diversified, the City can help guide residents in coordinating their activities to deal with neighborhood issues if the residents wish. Such coordinated efforts are usually more effective in solving problems than individual actions would be. Individual neighborhood plans can even be formulated, with the input of neighborhood residents, and coordinated by City staff to address specific problems or improvements.

To improve the dialogue between the City and the neighborhoods, the City should facilitate the development of a formal neighborhood planning process for dealing with neighborhood issues and soliciting citizen input on these issues. The City should encourage interested citizens to help define this process. Boundaries for neighborhoods throughout the City (possibly based on the existing Community Action Network and/or Neighborhood Watch areas) would need to be defined, and the formation of neighborhood associations for each of these areas should be encouraged. Perhaps a central committee

made up of representatives from these neighborhood associations could then meet on a regular basis. They could discuss issues which require further action or affect more than one neighborhood and try to formulate possible solutions. This would allow more direct citizen involvement in problems that affect their neighborhoods.

As the City grows, neighborhood associations can also substitute for more formal City government action. For example, neighborhood associations can use block meetings and peer pressure to correct neighborhood problems rather than seek City adoption and enforcement of ordinances to deal with neighborhood concerns. A neighborhood approach can be better tailored to resolving the particular problems of an area than can city-wide government action.



Neighborhood Preservation

One of Merced's major assets lies in its older, well-established residential neighborhoods. These neighborhoods often lie in close proximity to commercial or office areas and are subject to pressures for conversion to non-residential uses. Serious impacts from traffic, parking, and noise can intrude into these otherwise stable neighborhoods.



Changing patterns of ownership in older residential areas can also be a threat to neighborhood stability. As more units become rentals, that can lead to reduced maintenance and care for the housing units. As time goes by, this can lead to reduced property values and cause more owners to leave the neighborhoods.

However, the City has recognized these disturbing factors and is taking steps to prevent the deterioration of its well-established neighborhoods through strong neighborhood preservation policies (Policies L-1.5 and L-1.8), interface regulations in the Zoning Ordinance, and housing rehabilitation programs (Housing Element, Chapter 9).

Creating New Neighborhoods

With the same concern, the City is striving to carefully evaluate all new development in order to create new neighborhoods with the same valued characteristics which are a part of Merced's older residential areas. Some of these characteristics, which are often pointed to with pride, are streets lined with a canopy of mature trees, a variety of architectural styles, well-maintained exteriors and landscaping, controlled traffic levels, and convenient location of schools and parks. Merced's "Urban Village Concept," explained in detail in Section 3.6 and Chapter 6, is one way of creating such neighborhoods.

3.4.4 Residential Neighborhood Goals, Policies, and Actions

The goals and policies which follow reflect the City of Merced's desire to maintain and enhance the quality of the City's residential neighborhoods.

Goal Area L-1: Residential & Neighborhood Development

GOALS

- Housing Opportunities in Balance with Jobs Created in the Merced Urban Area
- A Wide Range of Residential Densities and Housing Types in the City
- Preservation and Enhancement of Existing Neighborhoods
- Quality Residential Environments
- Pedestrian-Friendly Residential Environments
- A Sense of Community

POLICIES

- L-1.1** Promote balanced development which provides jobs, services and housing.
- L-1.2** Encourage a diversity of building types, ownership, prices, designs, and site plans for residential areas throughout the City.
- L-1.3** Encourage a diversity of lot sizes in residential subdivisions.
- L-1.4** Conserve residential areas that are threatened by blighting influences.
- L-1.5** Protect existing neighborhoods from incompatible developments.
- L-1.6** Continue to pursue quality single-family and higher density residential development.
- L-1.7** Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services.
- L-1.8** Create livable and identifiable residential neighborhoods.

Policy L-1.1

Promote Balanced Development Which Provides Jobs, Services and Housing.

The long term economic health of the City is enhanced by maintaining housing opportunities that accommodate the local labor force. At the same time, residential development must have adequate and appropriate services which are accessible. The balance between job growth, housing opportunity and services not only supports stable economic growth in Merced, it also reduces vehicle trips for work commutes and service, and enhances the overall quality of life for Merced residents.

Implementing Actions:

1.1.a Promote mixed use development combining compatible employment, service and residential elements.

Mixed use development plans would typically be proposed in the new growth areas of Merced in accordance with the Urban Villages development standards. The City should consider reviewing its zoning and development codes in the established areas of the City to determine if policies and programs could be proposed which would facilitate the location of appropriate employment centers and services.

1.1.b Periodically review job growth statistics in the Merced urban area compared to new residential development.

The City should maintain and monitor housing cost data for different types of housing in the Merced Metropolitan area and for different parts of the City. This data would need to be periodically compared to existing employment opportunities to determine if there is a reasonable relationship between housing and jobs and determine if increased housing costs in a sector or area indicates demand for a particular type of housing.

1.1.c Determine the types of housing opportunities needed for the type of employment opportunities being created in the City.

The City should periodically review State employment statistics for the Merced Metropolitan Area and determine if new housing construction has been occurring in relative balance with job growth. Value and type of housing should be somewhat related to the types of jobs being created. Over time, if it appears that normal market forces are not matching housing growth with employment, the City may need to take action to promote the appropriate type of housing development by type and location.

Policy L-1.2

Encourage a Diversity of Building Types, Ownership, Prices, Designs, and Site Plans For Residential Areas Throughout The City.

Implementing Actions:

1.2.a Encourage higher-density residential developments within walking distance (approx. 1/4 mile) of commercial centers.

The Urban Villages Concept calls for higher-density residential developments within walking distance

of village commercial cores. A wide range of densities, including small-lot single-family, townhouses, and apartments, can be allowed in these “Village Core Residential” areas to achieve an overall average density of at least 10 units per acre. This residential development will help ensure greater support for transit and the economic viability of the commercial uses. These principles should be applied to most of the City’s new growth areas and financial incentives explored for promoting their use.

1.2.b Encourage residential and/or office above retail in the downtown area and in neighborhood commercial cores.

The City’s Central Commercial (C-C) zone currently allows residential uses as well as commercial uses, but most of the other commercial zones do not allow residential uses. Most of the zoning downtown is C-C. Consideration should be given to amending the Zoning Ordinance to allow and encourage residential above retail in other commercial zones or making use of Planned Development zoning to allow such uses. Traditionally retail uses outside of the downtown area are in single-story buildings. Additional upper floors with residential or office uses should be encouraged in order to provide a higher degree of street security at night, concentrated pedestrian activity, increased support for transit, and a greater number of lunch-time and after-work shoppers.

1.2.c Continue to allow second units in single-family areas and consider amending the Zoning Ordinance to allow rental of these units to people other than relatives or age 65 or older.

The City’s Zoning Ordinance currently allows the second units in single-family areas but they must be occupied by relatives by blood or marriage of the owner-occupant of the principal dwelling or people age 65 or older. Second units of this type can offer important housing opportunities for singles, low-income tenants, and college students if allowed. Second units which can be rented to students and entry-level staff and faculty could provide an important housing resource to the UC campus. Performance standards would need to be established for such units which should still require the owner to occupy the primary unit on the lot to avoid problems with “absentee” landlords.

1.2.d Encourage duplexes on corner lots in low-density residential areas.

The City’s Zoning Ordinance currently allows duplexes on corner lots in single-family residential areas with a conditional use permit if the lots are at least 8,000 square feet and the lot does not front only on an alley or collector or higher order street. Such duplexes should be encouraged. Consideration should be given to allowing these duplexes as permitted uses as long as the same requirements are met.

1.2.e Consider density increases for existing residential sites where the necessary conditions exist for higher densities.

Areas where such density increases should be considered would be areas along major transit corridors (such as the M Street transitway), areas within walking distance of commercial services, and infill sites.

1.2.f Create a new zoning category to correspond with the “Village Core Residential” land use category for mixed densities in residential areas within walking distance of neighborhood commercial centers.

The “Village Core Residential” land use category proposed in this general plan does not have a corresponding zoning category. (This category is known simply as “Village Residential” on the Land Use Diagram, Figure 3.1.) Planned Development zoning could be used on an interim basis (Table 3.2). A new zoning category should be created which would allow a mix of densities and housing types (small-lot single-family, townhouses, duplexes, apartments) in order to achieve a minimum average density of 10 units per acre.

Policy L-1.3.

Encourage a Diversity Of Lot Sizes In Residential Subdivisions.

*To encourage a wide variety of housing types to meet the City's diverse housing needs, the City shall promote the following **Implementing Actions**:*

1.3.a Continue the use of Residential Planned Developments to provide for smaller lot sizes in single-family developments.

The City's Low-Density Residential (R-1) zones currently have 5,000-, 6,000-, 10,000-, and 20,000-square foot minimum lot sizes. With the use of Residential Planned Developments, smaller lot sizes and other options (zero-lot-line, cluster housing, etc.) can be allowed, thus offering a variety of housing choices to meet the City's diverse housing needs.

1.3.b Continue to retain large lot parcel zoning (10,000 to 20,000 square feet) along Bear Creek and in areas adjacent to the urban fringe.

Larger residential and estate lots have traditionally been required along Bear Creek Drive to preserve its rural and scenic nature. Larger lots and estate lots adjacent to the urban fringe provide a good transition from higher urban densities to adjacent agricultural or rural residential uses. The City should review its policies and standards to make sure no barriers exist to developing larger lots within the City limits to meet market demand.

1.3.c Continue to use the "Random-mixed Lot" ordinance (MMC 20.10.065) to allow a mix of lot widths and lot sizes in R-1-6 (single-family residential-- 6,000 square-foot minimum lot size) zones.

This ordinance allows a mixture of lot widths ranging from 45 to 65 feet in single-family residential areas. The smaller lots are required to be "mixed-in" with the other lot widths with no more than two of these lots adjacent to one another. Up to 40 percent of the lots in a subdivision may be of this smaller width as long as 25 percent of the remaining lots are at least 65 feet wide. This allows a greater variety of housing designs while rewarding the developer with a small percentage of additional lots.

Policy L-1.4

Conserve Residential Areas That Are Threatened by Blighting Influences.

Many of Merced's existing residential neighborhoods are threatened by blighting influences. Merced's neighborhoods are the life blood of this community and considerable effort must be made to avoid their deterioration.

Implementing Actions:

1.4.a Conduct a study of non-conforming land uses and determine if the land use designations/zoning should be changed to conform to the existing use or if changes should be made to the Zoning Ordinance restrictions on non-conforming uses.

There exist a number of land uses throughout the City which are "non-conforming," meaning that the existing use of the property would not be allowed under the current zoning even though the use was allowed under the zoning which was in place when it was built. For example, an area which was once

residential has been converted to a commercial district. Over time, most residences were torn down and replaced with commercial development, but some “non-conforming” residences continue to exist.

Under the provisions of the City’s Zoning Ordinance (MMC 20.60), these non-conforming uses may continue to exist, but their survival is not encouraged. This means that they cannot be enlarged or extended nor can they be rebuilt if they are substantially destroyed. Non-conforming structures often have trouble obtaining insurance and financing because of these restrictions, which can lead to blight. For the most part, these non-conforming uses should not be encouraged. However, a study of these uses should be conducted to see if there may be some existing non-conforming uses which may merit special consideration. This special consideration may lead to a change in land use/zoning designation or possible changes to the Zoning Ordinance restrictions.

(Notes: For additional implementing actions, please refer to the Housing Element (Chapter 9)--Goal Area 2.)

Policy L-1.5

Protect Existing Neighborhoods From Incompatible Developments.

Merced’s existing neighborhoods should be protected from incompatible commercial and industrial uses which may cause adverse impacts on the residences.

Implementing Actions:

1.5.a Continue to use the Interface Overlay Zone regulations for the review of proposed land uses adjacent to residential areas.

The Interface Overlay regulations (MMC 20.52.010) require conditional use permits for commercial, and industrial developments directly adjacent to residential uses. The purpose of the use permit is to ensure that the residential areas are protected from possible negative effects such as obtrusive lighting, traffic, noise, loss of privacy, etc., from adjacent higher-intensity uses. Expanded setbacks, landscape buffers, height limits, restrictions on lighting and access, limited store hours, and other measures can be applied to these developments to make them better neighbors. These regulations also apply to high density residential uses adjacent to single-family zones.

1.5.b Evaluate traffic and circulation generated by large scale commercial and industrial projects and limit their adverse impacts on residential areas.

Sometimes commercial and industrial development can cause negative impacts on residential areas without being directly adjacent to them, and thus could not be addressed under the Interface Overlay regulations. Traffic is a particular concern. Traffic from employees or customers going to commercial and industrial areas can pass through residential areas and cause adverse impacts. Through the City’s Development Review process, the City should watch for circulation patterns which may encourage such pass-through traffic and make alternatives available to eliminate or limit these patterns. Changes to collectors and other streets that may cause existing traffic to take new routes should also be monitored.

1.5.c Continue to implement City Council Resolution #84-105 establishing policy for zone changes in the Central Residential Area of the City (bounded by 18th Street on the south, Glen Avenue on the east, and Bear Creek on the north and west).

- This resolution declares the City’s desire “to protect and preserve the single-family character of the City’s Central Residential Area by discouraging any application of a zone change which would result in the creation of additional commercial or multi-family residential uses within the area unless the applicant establishes, by clear and convincing evidence, that the benefits of the rezoning outweigh the perceived detriment to the City.”

- The following impacts are to be considered criteria for evaluating a zone change request:
 - 1) negative or economic impacts on existing residential properties;
 - 2) impacts on the City's Redevelopment Area goals and objectives;
 - 3) impacts on the number of owner-occupied dwellings; and
 - 4) the impact on the availability of affordable single-family housing in the area.
- The resolution additionally requires that public hearing notices for such zone change requests be sent to all property owners within 500 feet of the property instead of the State-required 300 feet.

Policy L-1.6.

Continue to Pursue Quality Single-Family And Higher Density Residential Development.

*To ensure the quality of the City's residential areas, the City shall pursue the following **Implementing Actions**:*

- 1.6.a Continue to review proposed subdivision designs to ensure the provision of adequate circulation, public improvements, common open space, landscaping, maintenance, etc. through the Development Review process.**

Subdivision maps are reviewed by City staff and the Planning Commission prior to approval through the public hearing process. The maps are reviewed to ensure that adequate circulation (auto, bicycle, and pedestrian), public improvements, open space, landscaping, etc. are provided.

- 1.6.b Continue to require multi-family projects to comply, at minimum, with the adopted standards and design guidelines contained in the "City of Merced Multi-Family Design Standards and Guidelines."**

Multi-family projects of three or more units are subject the *City of Merced Multi-Family Design Standards and Guidelines* (MMC 20.54.290 to 20.54.310). There are different standards for planned development projects, non-planned development projects of six or more units, and non-planned development projects of three to five units. Standards are set for building design, setbacks, signs, mechanical equipment, trash collection areas, fencing, landscaping, parking areas, and addressing.

Policy L-1.7.

Encourage the Location of Multi-Family Developments on Sites With Good Access to Transportation, Shopping, and Services.

Multi-family developments are crucial to meeting the housing needs of Merced's growing population. They need to be located in appropriate areas where services are readily available to serve the needs of residents in an efficient manner.

Implementing Actions:

- 1.7.a Designate areas adjoining arterial streets, major transportation routes and commercial areas for multi-family development.**

Through the general plan process, sufficient areas for multi-family residential development should be

designated. Locations appropriate for such development include areas adjoining arterial streets, major transportation routes, and commercial areas. On a yearly basis during the General Plan Annual Review, the City should determine if the inventory of available multi-family property will be sufficient to meet the City's needs. Potential multi-family sites which are too distant from necessary services should be discouraged.

1.7.b Use the Urban Village Concept to promote higher density residential development adjacent to commercial services and transit.

Multi-family development should be located in Village Core Residential areas for ready access to commercial services and transit.

Policy L-1.8.

Create Livable and Identifiable Residential Neighborhoods.

Implementing Actions:

1.8.a Encourage Neighborhood Watch programs and other neighborhood associations throughout the City which facilitate concern for and contact with one's neighbors.

Continue to promote Neighborhood Watch, the Community Action Network, and other such programs which lead to increased interaction between neighbors.

1.8.b Define specific neighborhood boundaries using natural or man-made features, such as creeks and roads, or by common community facilities (parks, schools, shopping centers). Ethnic and economic boundaries are discouraged.

As part of a neighborhood planning process, specific neighborhood boundaries will need to be determined. These neighborhood boundaries should be based on the above criteria as much as possible.

1.8.c. Develop a neighborhood planning process by which the concerns of specific neighborhoods can be addressed through neighborhood plans.

After adoption of the General Plan, the City should explore various options for creating a neighborhood planning process to address the needs of individual neighborhoods. These options could include the formation of new neighborhood associations or councils or the use of existing Neighborhood Watch and Community Action Network associations. These plans should strive for a high-level of public participation at the neighborhood level.

3.5 ECONOMIC ENVIRONMENT

3.5.1 Background & Scope

Economic Environment

The economic environment of Merced, like other local jurisdictions, consists of a number of interconnected elements. It is also influenced by a variety of factors which can range from the overall health of the national economy to local decisions. This portion of the General Plan summarizes some important factors which affect the local economy and briefly analyzes what makes the local economy function. By isolating the different segments of the economy, those factors which can be realistically affected within the context of the General Plan are identified. From there, policies and recommendations are proposed which will encourage the improvement and long-range stabilization of Merced's economy.

The City of Merced is likely to continue to be the commercial, financial, and governmental center for Merced County during the coming years. It remains relatively autonomous and centrally located between the competitive trade centers of Fresno to the south and Modesto to the north. The community contains the heaviest population concentration in the County, and the City's role as a regional trade center is strengthened by its position as the County seat.

The seasonal fluctuations of agricultural employment and the food processing industry are often noted as a deficiency in the local economy and are a cause of short-term variations in the local

unemployment rates. Overall, unemployment in the County, which is reflective of the City as well, runs consistently above the statewide unemployment rate. During the 1980's, jobs only grew 24% while population grew 58%.

Job Development

To achieve lower unemployment rates in the community, the City must play an active role in job development. Since 1960, the County employment data has shown a steadily increasing ratio of services-producing employment to goods-producing employment. Services-producing employment includes jobs in government, services, wholesale trade, retail trade, transportation, public utilities, finance, insurance, and real estate. The basic job categories for goods-producing employment are agriculture, manufacturing, construction, and mining. The development of industrial or manufacturing jobs will have a multiplier effect by generating other services-producing employment.

Also, the increasing ratio of service-producing employment to goods-producing employment demonstrates an increasing urbanization of the area with clear trends away from a totally agricultural economy. As Merced's role as an urban center in the Central Valley increases, so will its role as a government and trade center for the County. Increased personal income from non-agricultural employment and an increasing population, even at slow non-industrially induced rates, will continue to stimulate the service-producing employment sectors of the local economy.

A healthy economy provides choice, convenience, and employment for the residents of Merced, along with profits for the developer and business owner. The General Plan can be an integral part of this economic environment by clarifying the community's goals and outlining a set of actions for achieving them. This will serve to assist both the local decision maker and the investor/developer by clearly stating the City's position toward economic development.

3.5.2 Issues Affecting Industrial Development

Industrial Setting

Since the 1959 General Plan, industrial development in the City has been focused in three main industrial areas:

- 1) The Santa Fe Industrial Park (also known as the Eastern Industrial Area), reserved for heavy industry, located south of Highway 140 along Kibby and Tower Roads;
- 2) The Airport Industrial Park, reserved for light manufacturing, surrounding the Merced Municipal Airport in South Merced; and
- 3) The Southern Pacific Industrial Park (also known as the Western Industrial Area) on the west side of Highway 59 between Santa Fe Drive and Highway 99.

In 1980, the City lacked much large scale industrial development, so no new industrial areas were proposed in the 1980 General Plan. During the 1980's and 1990's, however, Merced's industrial base has grown and has begun to diversify away from the traditional agricultural base. Total manufacturing

jobs have increased and important new industries (printing and publishing, boat building, warehousing and distribution, and containers and packaging) have developed.

Retaining Existing Industry

It is one of the primary goals of this General Plan to properly utilize the existing industrial areas in Merced and to protect them from encroachment by non-industrially related uses which may affect their continued growth and expansion. Existing industries must be encouraged to expand and grow (adding new jobs) to remain competitive. Several policies later in this chapter (Section 3.5.6) address ways to achieve this goal.

Developing New Industrial Areas

As well as retaining existing industry, the City must recruit new industry to bring much needed jobs to the community. Unlike housing and some retail business, industrial development needs early attention in a comprehensive plan. The locational requirements and land needs of modern industrial facilities cannot be satisfied with land "left over" after all other uses have been designated on the land use diagram.

Few firms are free to locate wherever they choose. Site selection for major capital investments is influenced by many factors including wage scales, local cost of living, utility rates, tax levels, and transportation costs. Resource based manufacturing and processing plants must also be near raw materials, and have access to processed material suppliers and fabricators of components used in the industry. Where transportation represents a major element of

production cost and where other factors permit it, industries tend to select sites close to the markets they serve. The availability of a suitable labor force is also a significant determinant in site selection for many specialized industries. All of these tangible factors play a major role in site selections; some can be influenced by the General Plan, and others cannot.

Long-Range Planning for Industrial Land

The *Merced Vision 2015 General Plan* Land Use Diagram designates approximately 3,200 acres for industrial use. It is estimated (see Section 3.10.2) that the City will need from 1,900 to 3,200 acres of industrial land to support the City's projected job growth through the year 2015. Why, then, is the City planning for all this industrial land? The answer is based on the following factors:

- ◆ The Need for Large Sites
- ◆ Market Choice
- ◆ Time Needed to Make Sites Available
- ◆ Impediments to Development
- ◆ Reducing Unemployment

These factors are described in detail below.

- a) The Need for Large Sites: Many types of industry, especially food processing and distribution/warehousing, require sites with large amounts of acreage in order to accommodate land-intensive operations, open space buffer areas, truck storage and parking, waste application, etc., as well as for future expansion. Merced's 1995 inventory of industrial sites will not accommodate these users because

most of the land is not available in large parcels under single ownership, near necessary transportation facilities. The planned expansion of the Santa Fe Industrial Park in southeast Merced would be able to accommodate such users.

- b) Market Choice: Because of the various factors which go into an industry selecting a site (see previous section), it is necessary to have an inventory of sites with a wide variety of sizes, locations, costs, and amenities. To be competitive, Merced needs to be able to offer prospective industries more than just one or two sites that may suit their needs. A limited supply of sites also tends to increase the price of land, which negates one of Merced's competitive advantages (low land costs) over other areas.

- c) Time Needed to Make Sites Available: In order to be competitive, it is not enough to simply designate a number of sites for industrial use. Prospective industries want to have sites that already have utilities and required infrastructure. In order to make sure that needed infrastructure is in place, it is necessary to plan for it well in advance of the need for development. The Merced Airport Industrial Park was able to offer readily-available sites to industry because the City had the forethought in the 1970's to provide necessary infrastructure to the park before there was a demand.

d) Impediments to Development:

Many sites that have been designated as industrial on the City's General Plan Land Use Diagram for many years have impediments to development which, although not insurmountable, will need time to resolve. In the meantime, these sites are not available for development because the cost to develop is too high for most prospective users. One example is the Southern Pacific Industrial Park in western Merced, where the remaining sites are located in a flood plain. The proposed Corps of Engineers Flood Control Project (see the Safety Chapter, Section 11.3.4) will resolve this difficulty, but there is no definite time table for when that project will be completed, and interim solutions to allow development are expensive.

- e) Reducing Unemployment: For many years, Merced County has had one of the highest unemployment rates both in the San Joaquin Valley and the State. If Merced is to lower that figure, more jobs will have to be produced in this area than have been previously. More jobs require more industry and more industrial land.

Because of these factors, the City has planned for enough industrial land on the Land Use Diagram to accommodate more than 20 years of growth (the life of this General Plan).

Business Parks

Within this general plan, the City is recommending that industrial areas become more flexible. Because of increasing air quality and traffic

concerns, it is becoming desirable to provide many commercial and service activities convenient to industrial activities for easier accessibility by industrial employees. If restaurants, health clubs, daycare centers, auto services, some offices, limited retail activities, and other land uses that are needed by industrial employees could be located convenient to such zones, it could have substantial traffic and air quality benefits to the community as well as making it easier for industrial employees to conduct business, run errands, etc. without having to drive across town.

The City currently does not encourage or even allow in some cases these kinds of uses. The City, therefore, proposes to make some adjustments to the City's Zoning Ordinance to allow such uses in industrial areas.

A new land use category, "business park", that is being introduced with this general plan also reflects the idea of having mixed-use industrial areas. "Business parks" would allow a mix of commercial, office, and industrial uses with shared access and parking facilities. These business parks would be located mostly along Highway 59 and Highway 99. It is assumed that on the average approximately one-third of the land uses in these business parks will be commercial, one-third office, and one-third industrial.

Most retail uses that would normally be found in a shopping center would not be appropriate in these areas, however. Retail sales of large products (such as building supplies, appliances, and furniture) and most heavy commercial

uses would be appropriate; but department stores and grocery stores probably would not. These parks would not likely be attractive for most professional offices, but some commercial offices and all regional ("back") offices would be encouraged. Light industry would be appropriate, but heavy industry would not.

Overall Community Quality

Another key role of the General Plan in the development of industry pertains to less tangible elements which are crucial in promoting economic growth. Many business enterprises are strongly influenced by the character of the community when choosing a location. Among paramount concerns are an adequate housing supply, freedom from deterioration and blight, the quality of schools and other public facilities and services, and the availability of cultural and recreational resources. For example, industries will not pick sites where their operations are likely to result in complaints from nearby residents, or where a firm's own employees and vehicles must strongly compete with other traffic using the same routes.

In this respect, the City's overall success in carrying out the goals of all the General Plan chapters will be important to promoting economic growth. The comparative economics of Merced's competitors will continue to make industrial promotion a challenge. However, Merced's ability to maintain a high quality of life for its residents, to present a clean, attractive appearance, and to provide efficient service levels and infrastructure will give Merced an advantage over many of its competitors.

3.5.3 Issues Affecting Commercial Development

COMMERCIAL SETTING

The 1959 General Plan concentrated major commercial uses in the downtown and along G Street. Neighborhood commercial centers were spread throughout the community. In the 1968 General Plan, there was an attempt to eliminate many existing commercial areas by designating them for residential uses.

In the 1981 General Plan, commercial policies were directed at improvement of existing commercial areas of the City. Commercial activity was concentrated in the Downtown area, the Merced Mall area, and along the G Street and Yosemite Park Way corridors. A new retail commercial area was proposed near the Childs Avenue interchange with Highway 99. Office development was concentrated in those same areas as well as in the area around the County offices and Mercy Hospital.

In 1981, the community felt that Downtown Merced should remain the primary retail commercial center of the City and that no new shopping areas should be established, unless the need could be clearly shown and they would not adversely affect the other existing areas. Consequently, no new areas were established.

In 1990, a random survey of Merced County households found that a large percentage shopped outside of Merced County on a regular basis. Much needed sales tax dollars were "leaking" out of the County because Merced County shoppers could not find the goods they needed at a price they wanted to pay. A

need for more discount department stores, department stores, clothing stores, and sit-down restaurants was cited.

In 1992, there were a number of commercial users that wanted to locate in Merced but could not find sites large enough to accommodate them. In order to address that short-term need, a study was undertaken by the City Planning and Economic Development staffs to find sites for those users. In June 1992, the City Council approved the staff recommendation to encourage development of fourteen different commercial and industrial sites throughout the community. Subsequently, Costco, Wal-Mart, Toys R Us, Orchard Supply Hardware, and Circuit City opened for business in 1993-95.

The *Merced Vision 2015 General Plan* proposes the development of new commercial areas as well as the improvement of existing commercial areas.

It is the intent of the General Plan to encourage the development of commercial areas which conveniently serve the residential population, provide employment opportunities, form an attractive segment of the community, and contribute to the community's tax base.

COMMERCIAL CLASSIFICATIONS

The functional classification of commercial uses by the market they serve and the size and characteristics of their operations form the basis for the commercial segment of the General Plan. Six categories of commercial land use are defined in the General Plan (see Sections

3.3.3 and 3.9). Issues regarding each type of commercial use are discussed in the following sections.

1) Thoroughfare Commercial

The primary function of thoroughfare commercial areas is to accommodate auto-oriented commerce and the needs of people traveling on highways. Thoroughfare commercial areas should be located along highways and arterials leading into and through the City.

While thoroughfare commercial areas contain a wide mixture of uses, some commercial uses are more appropriately located in other areas. Uses that often prove inappropriate include neighborhood retail functions, professional offices, and heavy commercial uses.

The visual image created by these areas usually represent the motorist's first and lasting impression of the City. These areas are often called "strip commercial" areas which carry a number of negative connotations, including excessive signs, poor or no landscaping, unscreened storage and loading areas, and disruptive vehicle access. This creates a disjointed appearance which has the compounding effect of making each new use compete for visual identity through larger signs or a flashy appearance. Therefore, it will benefit the City to ensure that these areas attempt to project an image of well designed and maintained development.

To facilitate a coordinated design approach to improve several of the existing thoroughfare commercial areas, specific corridor plans may be prepared as a follow-up action to the General Plan. Corridor plans for Yosemite Park Way and Martin Luther King Jr. Way/South

Highway 59 could be prepared in conjunction with the “Gateways Redevelopment Project.” The “16th Street Design Standards” (developed in 1988) and the “Yosemite Park Way Design Plan” (adopted in 1984), are examples of such corridor plans.

2) Neighborhood and Convenience Centers

Neighborhood centers are designed to provide for the sale of convenience goods (food, drugs, and sundries) and personal services which meet the daily needs of an immediate neighborhood trade area. (See Section 3.9 for a more detailed definition.) A supermarket is usually the principal tenant in a neighborhood center. Geographical convenience is the most important factor in the shopper’s choice of facility in this commercial category. The appropriate market area for neighborhood centers is usually a one-half to one-mile radius.

The variety of goods and services offered is usually quite similar between neighborhood centers, unless more than one center is allowed to locate within the same drawing area. If this occurs, the competition for floor space may begin to attract other uses, such as home furnishings, appliances, clothing sales, and business services. At this point, the facilities begin to take on a community center function for the which they may be improperly located or designed to handle.

In addition, the “strip commercial” effect can be caused by multiple neighborhood centers located in close proximity along major thoroughfares. This dilemma can be seen in the area of G Street and Olive Avenue. Often, it would be more appropriate for the non-neighborhood

uses to locate in a community/regional center, thereby lessening the impact on the adjacent residential areas and the traffic load on major streets.

In addition to the standard neighborhood center, there is also the possibility of creating a designation for convenience centers. This type of facility could locate on a small site of one to five acres and serve the immediate residential neighborhood. The major tenant would be a shop-and-go type food store with maybe one or two other tenants providing personal services. This might be considered the modern version of the “mom and pop” grocery store. At this time, however, the chain-type outfits marketing this kind of business usually prefer to locate on major thoroughfares in the vicinity of other larger commercial facilities and not independently in residential neighborhoods. It is still a worthwhile concept, however, which the City should try to accommodate if the opportunity arises.

3) Community and Regional Centers

Often cities define two distinct categories of major retail centers, community centers and regional centers. Because of Merced’s present population and size, these categories are grouped together. The major retail centers in Merced serve the community and also attract customers from a wider regional market.

There are four existing areas of the City which fit into the regional commercial category: a) Merced Mall; b) Olivewood Shopping Center/Walmart; c) Westgate Shopping Center; and d) Downtown. Three more community commercial areas are being designated with this General Plan--a) one in the vicinity of Highway

59 and Olive Avenue; b) one in South Merced near Highway 99 and Childs Avenue; and c) another in the North Merced Village area near M Street and Bellevue Road.

The community and regional centers are distinguished from the downtown area because in general they are architecturally-unified facilities built on a single site or a combination of adjacent sites, managed as a single operating unit with on-site parking provided.

The definitive feature for a community or regional center is major tenant classification and the amount of auxiliary facilities. A community center has a junior department store and/or variety store as the major tenant or combination of major tenants. The regional center provides shopping goods, general merchandise, apparel, and home furnishings in full depth and variety, with one or more major department or specialty stores as the key tenants. In Merced, the Westgate shopping center could be defined as a community center and Merced Mall as a regional center.

4) Commercial and Professional Office

As a land use category, commercial and professional offices function in a variety of locations in the City. In some cases, they will tend to congregate as a result of the immediate surroundings, as seen around the County Courthouse and Mercy Hospital. In other situations, they are grouped by zoning or in the desire to locate in planned office complexes.

In the downtown area, offices and financial institutions are an integral element in maintaining the viability of the central business district as an economic

center for the City and County. Therefore, regional commercial and government-related offices should be encouraged to locate in the downtown area whenever possible. Professional offices which serve local interests should be directed toward the neighborhoods which they serve. "Back office" functions and regional headquarters which have large space needs that can't be accommodated downtown are encouraged to locate along the Highway 59 corridor or the M Street transitway.

Large areas are designated for commercial office use (about 1,100 acres) on the Land Use Diagram, mostly along Highway 59 and across arterials from Village Core Commercial Centers, even though the land use needs analysis (see Section 3.10.2) shows the need for only about half of that amount.

The reason for this is the critical nature of location for these uses. (Office uses need to be near retail services and prime access routes, and "back offices" have large space needs which cannot be accommodated elsewhere.) There will be a need for significantly more office land along these major streets in the future (by 2035) due to growth in the area and to the possible influence of the UC campus. These sites must be reserved for office use at this time because it would be extremely difficult to designate them in the future, once residential growth occurs around them. If it turns out that the land is not needed for offices, it can easily be converted to residential use in the future.

CENTRAL BUSINESS DISTRICT/
DOWNTOWN

Like most older communities, Merced's central business district was once the center of retail and business activity for the entire community. During the 1960's and 1970's, the downtown area experienced a serious decline as many retail commercial uses moved to the newly-developing suburban areas north of Bear Creek.

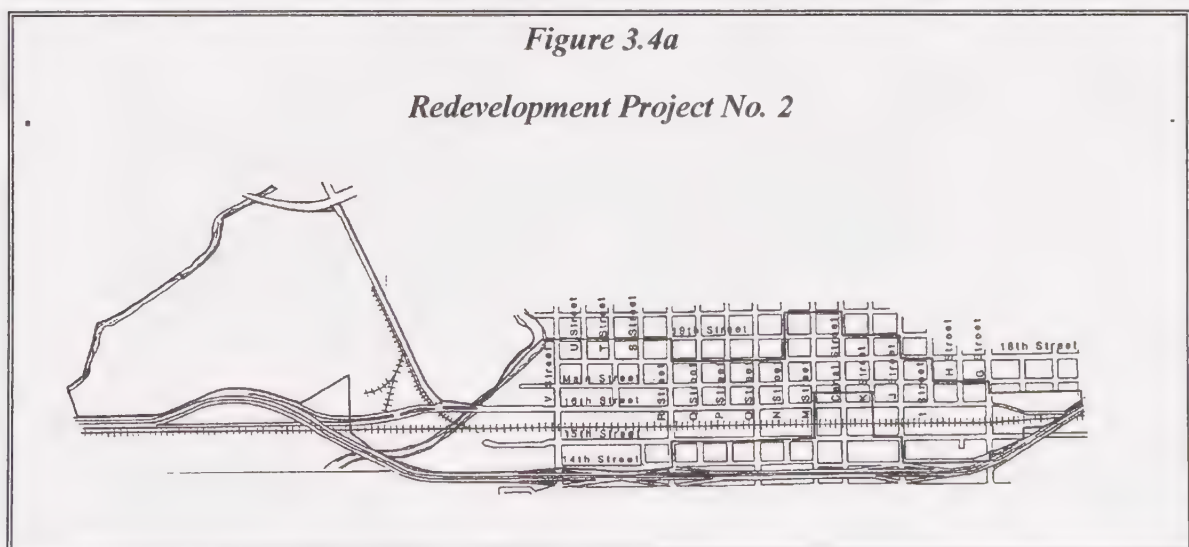
The City has remained deeply committed, however, to revitalizing the downtown area. In 1974, the City's Redevelopment Project No. 2 (**Figure 3.4**) was adopted. In 1975, a strategy for revitalizing downtown was established. This strategy suggested the construction of a civic/cultural center, the attraction of new financial and office facilities, and maximum rehabilitation and retention of remaining businesses, with a special emphasis on financial uses, automotive sales, tourist activities, and community level shopping facilities. The 1981 General Plan contained strong policies in support of this strategy and also discouraged the creation of any new

regional commercial centers which might compete with the downtown revitalization efforts.

In 1991, the Downtown Merced Market Strategy Task Force was formed to develop a consensus on the proper direction for downtown, since it was no longer appropriate to limit commercial development outside the downtown due to changing shopping habits and air quality concerns. The following "Vision for Downtown Merced" was subsequently adopted:

"Downtown is Merced's most diverse social and economic center. Downtown will continue to play a dominant role in cultural and civic activity, finance, and government. Downtown will become a stronger center for business, education, housing, and local and regional retail."

A set of strategies and tactics to achieve this vision were also adopted. These strategies have been translated into General Plan policies and actions (see Policy L-2.8).



*Gateways Redevelopment Project Area
--West*

GATEWAYS REDEVELOPMENT PROJECT AREA

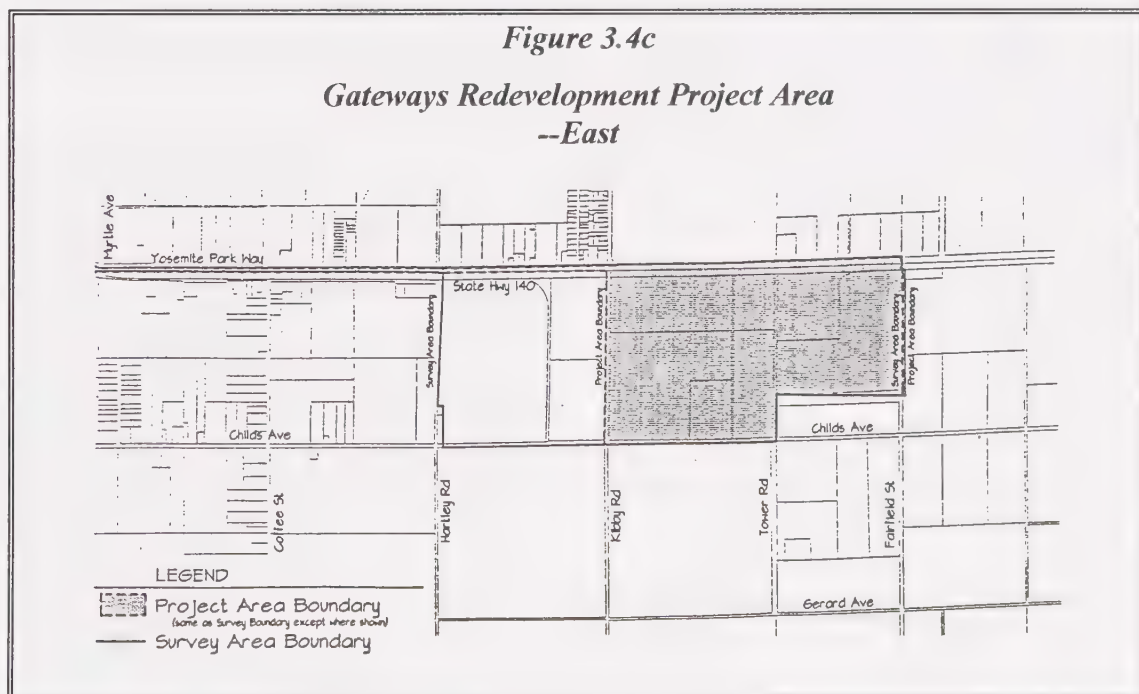
In July 1996, the Merced City Council adopted the Gateways Redevelopment Project. The project is a 30-year plan to improve a 1,700-acre area around two “gateway” arterials into the City--Yosemite Park Way (Highway 140) and Martin Luther King Jr. Way (*Figures 3.4b and 3.4c*). These “gateways” are important entrances into the City from Yosemite National Park and Mariposa County to the east and Highway 59 and Highway 152 from Los Banos and the Bay Area to the south.

The goal of the Plan is to eliminate blight by providing needed public improvements; by encouraging rehabilitation and repair of deteriorated structures; by facilitating land assembly and development which will result in housing opportunities, employment opportunities, and an expanded tax base; and by promoting development in

accordance with the General Plan. A Gateways Project Area Committee made-up of area residents was formed to help oversee the Plan.

In pursuit of the above goal, the following priorities were established:

- 1) Develop basic neighborhood and village services through additional retail centers;
- 2) Improve the physical image of the Gateways arterials and areas;
- 3) Improve the streets and transportation network along with storm drainage facilities;
- 4) Develop more affordable housing and promote rehabilitation;
- 5) Assist in industrial development to create new employment opportunities;
- 6) Carry out other public improvements; and,
- 7) Create family entertainment centers and youth program facilities.



3.5.4 Economic Development

Enterprise Zone

In December 1991, the City of Merced along with the City of Atwater and parts of Merced County were designated as an Enterprise Zone by the State of California. This zone designation, which covers most of the commercial and industrial land within the City (*Figure 3.5*), provides tax benefits and other financial incentives for businesses to create new jobs and make business investments within the community. These benefits include tax credits, tax deductions, hiring assistance, fast-track permit processing, price reductions on City-owned land, discounts on public improvements, and the use of improvement districts. A Recycling Market Development Zone designation was added in 1992 to stimulate markets for recycled material within the Enterprise Zone area.

Economic Development/Target Industries

The Economic Development Business Plan for Merced was adopted by the City Council in August 1992 and revised in 1995 upon the recommendation of the Economic Development Advisory Committee. The plan identifies Merced's comparative advantages over other Valley communities, target industries, our competition for those industries, and a marketing strategy for bringing new businesses to Merced.

In summary, the report concludes that Merced's comparative advantage lies in what Merced has that others do not. Merced has advantages for users seeking low costs relative to the rest of

California, a growing local population that's highly diverse, a central location on major transportation routes with easy access to markets, abundant low-skilled labor, and abundant water.

For industry, this means Merced will be attractive to manufacturing companies from other parts of the state, companies dependent upon the agricultural base, industries that do not impose air quality problems, and companies performing traditional manufacturing tasks. Merced is also attractive to certain kinds of "high tech" companies willing to precede a University location, and also has opportunities in the auto parts industry due to the 1995 location of Arvin Sango here.

In retail, Merced will be attractive to discounters, and convenience and service uses. As Merced's incomes rise, there will be increased demand for "upscale" shopping, but probably not enough to support major upscale retailers, such as Macy's or Nordstrom's, at least not for some time, unless they develop smaller, scaled-down versions for communities like Merced.

Based on these advantages, the Business Plan identifies various commercial and industrial "targets." Those industries are subject to change to reflect market conditions. Choice of target businesses does not mean other users will be excluded from the community, just that active development recruitment efforts should be focused on these areas which have the most chance of success.

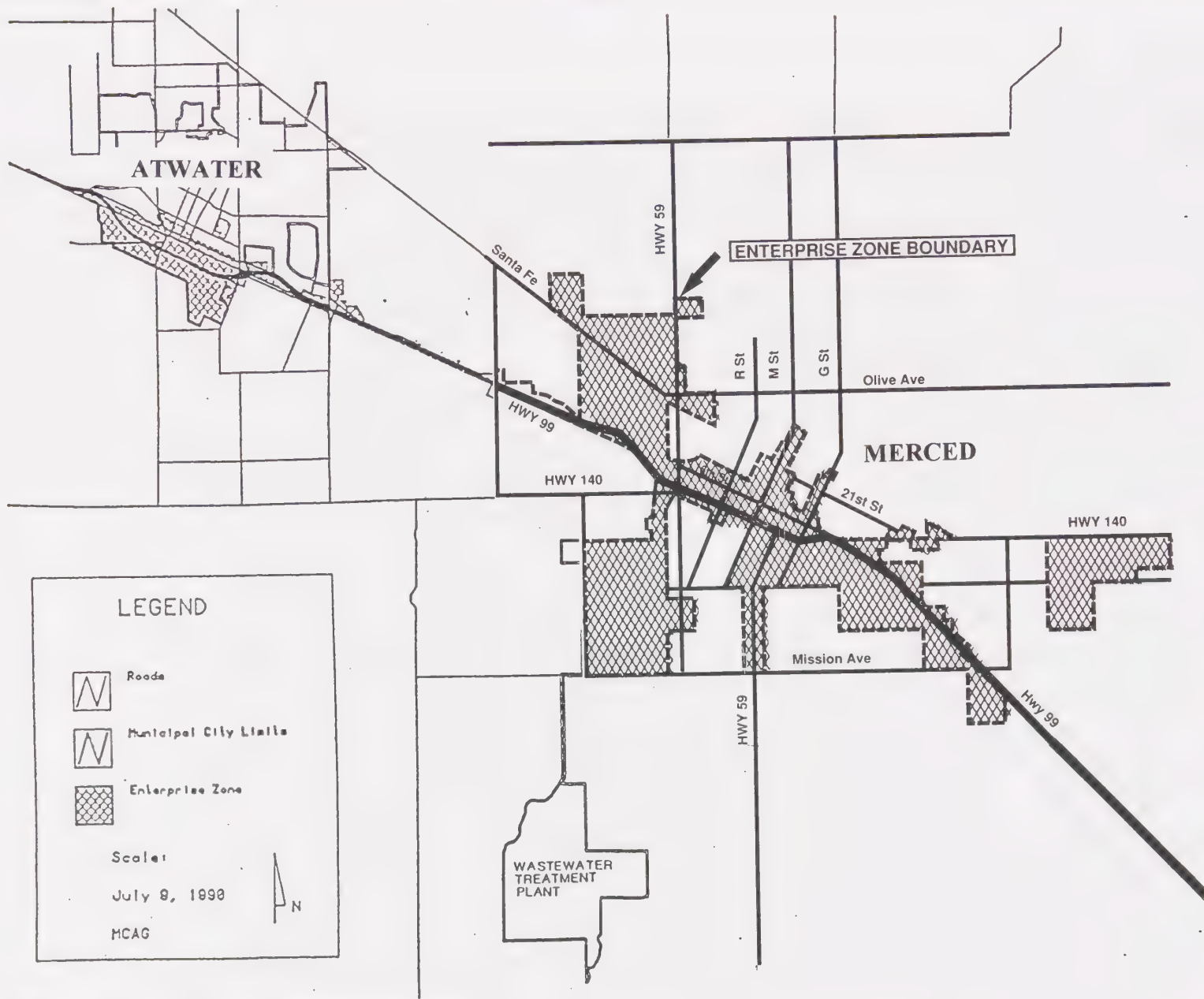
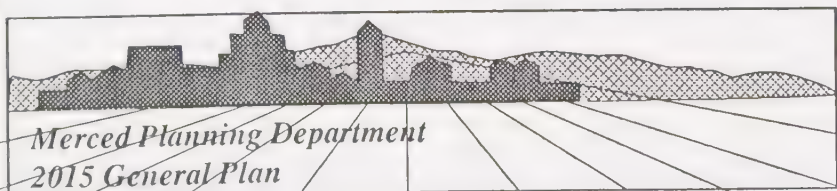


Figure 3.5

Merced-Atwater Enterprise Zone



3.5.5 Commercial and Industrial Employment Corridors

The General Plan Land Use Diagram proposes several employment areas with heavy concentrations of commercial and industrial development. These areas, seen in **Figure 3.6**, are generally described as follows:

- 1) Existing City--Within the existing City limits, generally bounded by Yosemite Avenue to the north, McKee Road to the east, Childs Avenue to the south, and Highway 59 to the west. This area includes the downtown core, the Olive Avenue commercial corridor, the G Street and Yosemite Parkway commercial corridors, the Merced Airport Industrial Park, as well as scattered neighborhood commercial uses. No significant expansion of these areas is expected except for an expansion of the Airport Industrial Park to the south.
- 2) Highway 59 Corridor--Along the east and west sides of the proposed Highway 59 Western Beltway from Old Lake Road north to Highway 99 south. Significant business park and industrial development (including expansion of the existing Western Industrial Area) is proposed along this corridor. Some commercial areas are also located along this corridor. These developments will be served by a system of frontage and reverse frontage roads in order to protect the traffic-carrying capacity of the highway (Section 4.7.2).
- 3) North Merced Villages--The area generally bounded by Yosemite Avenue to the south, Lake Road to the east, Old Lake Road to the north,
- and Highway 59 to the west. This area will support various neighborhood commercial, office, and community commercial development along the major east-west arterials throughout the area. These commercial cores will be surrounded by higher-density residential development and will emphasize transit and pedestrian access.
- 4) South Merced--Generally the area south of Childs Avenue, west of Highway 99, north of Mission Avenue, and east of Thornton Road. This area will likely house regional commercial, industrial, and business park development along Highway 99, as well as neighborhood commercial centers throughout the area and auto-oriented general commercial uses along South Highway 59. Specific plans have been proposed for this area (see Section 3.7.5).
- 5) Southeast Merced--The area generally bounded by Highway 140 to the north, the Fairfield Canal to the east, Highway 99 to the west, and Mission Avenue to the south. Southeast Merced houses the Santa Fe Industrial Park which is proposed for expansion and extension of its boundaries south to Mission Avenue. A neighborhood commercial center along Childs Avenue is proposed. Significant highway-oriented commercial and business park development will be considered for the areas adjacent to the proposed Mission Avenue/ Highway 99 Interchange and will be held in reserve for these uses until the interchange is actually built.

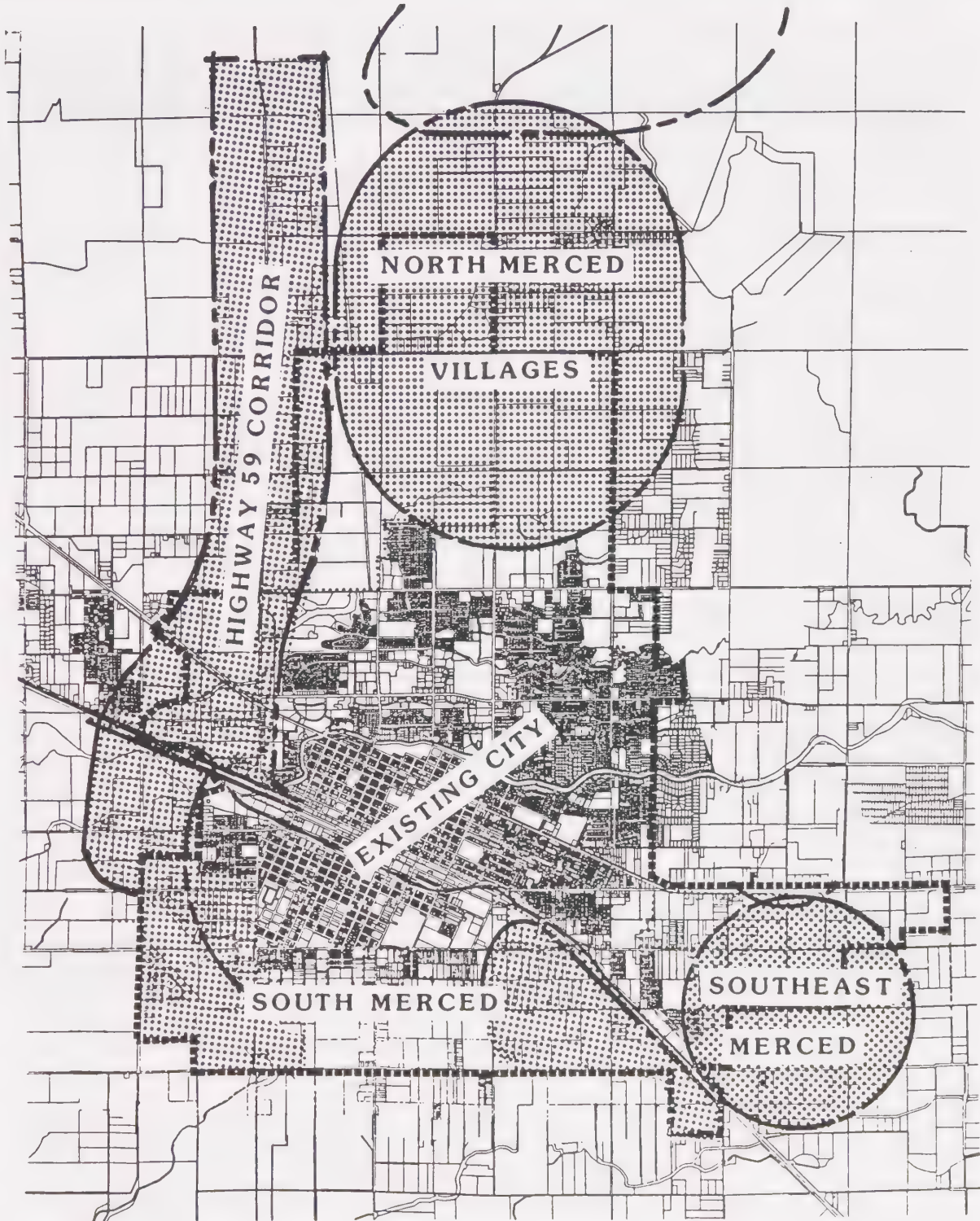
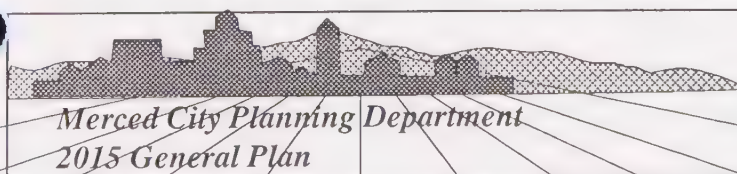


Figure 3.6

Commercial and Industrial Corridors



3.5.6 Commercial and Industrial Goals, Policies, and Actions

Goal Area L-2: Economic & Business Development

GOALS

- Increased Employment Opportunities for the Citizens of Merced
- A Diverse and Balanced Merced Economy
- Preservation of the City's Economic Base
- High Quality Industrial Areas
- Ready Access to Commercial Services Throughout the City
- A Revitalized Downtown Area

POLICIES

- L-2.1 Encourage further development of appropriate commercial and industrial uses throughout the City.
- L-2.2 Locate new or expanded industrial parks in appropriate areas.
- L-2.3 Promote the retention and expansion of existing industrial and commercial businesses.
- L-2.4 Provide a range of services adjacent to and within industrial areas to reduce auto trips.
- L-2.5 Maintain attractive industrial areas.
- L-2.6 Provide neighborhood commercial centers in proportion to residential development in the City.
- L-2.7 Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets.
- L-2.8 Encourage a mixture of uses and activities that will maintain the vitality of the downtown area.

Policy L-2.1

Encourage Further Development of Appropriate Commercial and Industrial Uses Throughout the City.

In order to further develop the City's economic and job base, new areas for commercial and industrial development must be designated. In addition to designating such land, the community needs to be actively involved in recruiting new industries and businesses.

Implementing Actions:

2.1.a Designate adequate amounts of commercial and industrial land to serve the City's employment needs through 2015 and beyond.

Based on employment projections and employee per acre ratios, the amount of land needed to accommodate commercial, office, and industrial uses can be determined. The General Plan Land Use Diagram contains sufficient amounts of appropriately designated land to meet these needs. Since these projections will change over time with changing market conditions, it will be necessary to update this information on a regular basis in order to ensure that the City's supply of commercial and industrial land remains adequate. The Planning Commission's General Plan Annual Review would be the appropriate time to review this information.

2.1.b Maintain an inventory of vacant commercial and industrial land and make this inventory available to the public and the development community.

Several sources for such information currently exist. The City of Merced Economic Development Department maintains such an inventory. In addition, "Site-Find" is a countywide site selection search service created by the Merced County Economic Development Corporation (MCEDCO) using the Geographic Information System (GIS) developed by the Merced County Association of Governments. "Site-Find" can conduct a comprehensive search of Merced County's more than 63,000 parcels and deliver a list of available commercial and industrial properties within minutes. The City will continue to work with MCAG to make sure the system or a similar system remains up-to-date.

2.1.c Continue the City's Economic Development activities.

Work closely with the Chamber of Commerce, Merced County Economic Development Corporation, the Business Council, the Economic Development Advisory Committee, etc. to implement the City's Economic Development Business Plan.

2.1.d Develop incentives as appropriate to encourage new commercial and industrial development.

Work with agencies involved in economic development activities to develop incentives such as those offered through the Enterprise Zone to encourage new commercial and industrial development.

2.1.e Specifically target South Merced as an area that needs more commercial retail and office development.

South Merced's large residential population is currently underserved by retail commercial and office uses. Except for some scattered convenience commercial uses, this area lacks even the most basic services. Because of the low average incomes of this area, it is difficult to entice major commercial users to locate in South Merced even though most of the available land is located in the Enterprise Zone. The City will need to make considerable effort to turn this situation around. The new Redevelopment Area for this area would provide the necessary incentives.

2.1.f Promote industrial development that offers full-time, non-seasonal employment.

Merced's traditionally agriculture-based economy has led to large swings in unemployment due to the seasonal nature of agriculture. The City should, therefore, target new industries for recruitment purposes who can offer year-round employment.

2.1.g Maintain a list of target industries for economic development purposes.

The City's Economic Development Business Plan outlines target industry sectors for both industrial and commercial development. These are intended to be impermanent target choices which will be reviewed and modified as economic conditions change by the City's Economic Development Advisory Committee. Choice of target industries does not mean that other users are excluded from the community; it only indicates where it is believed active development recruitment efforts will be the most effective. Geographic target markets are also defined and prioritized for recruiting efforts in the Business Plan.

2.1.h Evaluate the future role of the Merced Airport and the desirability of expanding uses in the Airport Industrial Park to further promote tourism uses dependent on aviation access.

It may be desirable to promote tourist-related services in the area surrounding the Merced Municipal Airport to take advantage of Merced's status as the "Gateway to Yosemite" and being the nearest airport to Yosemite capable of handling large aircraft. At the same time, options should be explored for possible future non-aviation uses of the Airport if the reuse of Castle AFB leads to the development of a competing airport.

2.1.i Actively market the benefits of the Merced-Atwater Enterprise Zone and Recycling Enterprise Zone.

The City of Merced will continue to cooperate with the Merced Chamber of Commerce's calling programs for local businesses located within the Enterprise Zone and describe the Enterprise Zone program and its benefits to them, as well as the Recycling Zone. Seminars and presentations will also be conducted on a periodic basis. The City will also highlight the benefits of the Enterprise Zone in its marketing brochures and other promotional material.

Policy L-2.2

Locate New or Expanded Industrial Parks in Appropriate Areas.

It is important to designate areas for new industrial development ahead of other uses due to the area and access needs of industry as well as the need to avoid planning for incompatible uses adjacent to industrial areas which might interfere with continued industrial operations.

Implementing Actions.

2.2.a Industrial areas should be located where they will have good access to air transportation, rail transportation, or major highway transportation links.

Merced's three existing industrial parks are located where they have good access from air, rail, and/or highway transportation. New and expanded industrial areas proposed on the Land Use Diagram (along North Highway 59, along Highway 99, etc.) are also located to take advantage of good access. Any future industrial areas would also need to follow this criteria.

2.2.b Industrial reserve areas should be protected from non-industrial use or premature development through agricultural zoning until such time as the land is needed for industrial development.

The City will work closely with the County to assure that industrial reserve areas are protected from premature or incompatible development. Generally, areas designated as “Industrial Reserve” will be combined with an interim use classification, such as Agriculture on the County General Plan, which maintains existing use practices in the area but establishes expected future uses based on need. Industrial reserve areas are designated on the Land Use Diagram within the Merced SUDP south of Mission Avenue adjacent to Highway 99.

2.2.c Parcels of land in industrial reserve areas should remain as large as possible in order to accommodate a variety of plant sizes and types in the future.

Lot splits should be discouraged in industrial reserve areas until such time as they are ready for development in order to provide maximum flexibility for future uses. The City will work with the County to ensure that industrial reserve areas are zoned for the appropriate Agriculture Zones which require 20-acre or 40-acre minimum parcel sizes.

2.2.d Develop an action program which outlines priorities for annexing new industrial and commercial areas and includes plans for providing services and infrastructure to these future industrial/commercial areas.

Under the direction of the Economic Development Advisory Committee and the Planning Commission, the City should establish an action program for annexing new industrial and commercial areas which would include plans for providing infrastructure. Since it takes time to bring industrial sites “on-line”, it is imperative that this be done in a timely manner. The first priority has been identified as providing services to the South Airport Industrial Park.

Policy L-2.3

Promote the Retention and Expansion of Existing Industrial and Commercial Businesses.

In order to maintain the City's economic base, it's not enough to attract new businesses. Existing businesses, if taken for granted, can leave the area, go out of business, or stop growing. By reaching out to existing businesses, the City can make sure that their current and future needs are being met as well as promote their expansion.

Implementing Actions:

2.3.a Protect industrial areas from encroachment by non-industrially-related uses.

Designate buffer areas (which may include open space areas, business parks, commercial development, and/or heavily-landscaped roadways or parkways) between industrial and residential uses. Guidelines should be established for these buffer areas to address their minimum size, development standards, etc.

2.3.b Continue to improve the permit approval process to ensure that industrial development project are approved in a timely manner.

The Development Services Department has over the last few years made considerable effort to streamline the permit approval process for residential, commercial, and industrial projects. These efforts are expected to continue on an ongoing basis. The development of design guidelines for commercial and industrial projects could be developed to make the City's expectations clearer.

2.3.c Maintain a business outreach program to ensure that the needs of existing businesses are being met.

The City's Economic Development Department along with the Chamber of Commerce, the Economic Development Advisory Committee, and the Small Business Development Center, participate in various programs which contact local businesses regarding retention and expansion opportunities.

Policy L-2.4

Provide a Range of Services Adjacent to And Within Industrial Areas to Reduce Auto Trips.

By providing services adjacent to or within industrial areas so that employees don't have to leave the area to eat lunch or run errands, the number of noon hour auto trips may be reduced.

Implementing Actions:

2.4.a Establish a new zoning designation called "business park" which would allow a mix of heavy commercial, "back office," and light industrial uses.

The General Plan introduces a new land use designation, "Business Park." Planned Development zoning can be used on an interim basis, but a "business park" zone should be established which would allow a mix of heavy commercial, "back office," and light industrial uses. By allowing this mix of uses, the number of auto trips may be reduced within these areas.

2.4.b Continue to allow services, such as restaurants and other retail commercial uses which mainly serve industrial employees, to locate in industrial zones as discretionary uses.

The City's Light Industrial Zone allows restaurants which serve employees and are located in main buildings as accessory uses. Retail commercial uses which are deemed appropriate by the Planning Commission are allowed as conditional uses.

2.4.c Consideration should be given to provide attractive, efficient, and affordable means of mass transit between industrial areas and residential areas of the City.

Transit routes should serve industrial areas so that employees can reach their jobs by means other than the private automobile. The location of industrial areas and other major employment centers will be considered as transit routes are established.

2.4.d Consideration should be given to making changes to the Zoning Ordinance which allow for some commercial and service activities in and/or convenient to industrial areas.

Because of increasing air quality and traffic concerns, it is becoming desirable to provide commercial and service activities convenient to industrial activities for easier accessibility by industrial employees. If restaurants, health clubs, daycare centers, auto services, some offices, and limited retail activities that draw primarily from industrial areas could be located convenient to such zones, it could have substantial traffic and air quality benefits to the community as well as making it easier for industrial employees to conduct business, run errands, etc. without having to drive across town.

The City currently does not encourage or even allow in some cases these kinds of uses. Changes to the Zoning Ordinance will be necessary to achieve this objective.

Policy L-2.5

Maintain Attractive Industrial Areas.

For the purpose of recruiting new businesses and retaining existing businesses and for overall City image and appearance, attractive industrial areas should be maintained.

Implementing Actions:

2.5.a Continue to require Site Plan Review of new industrial development and the application of standards regarding landscaping, appearance, circulation, access, and parking.

The City currently requires Site Plan Review for new industrial development and the expansion of existing industries. This staff-level review applies consistent standards regarding landscaping, access, etc. to ensure that industrial areas are developed in an attractive manner while still recognizing that industrial development standards need to be flexible to balance aesthetic needs with operational practices. The emphasis should be placed on maintaining an attractive appearance along the perimeter of industrial areas where they are visible to other land uses and the public.

2.5.b Consider requiring the planting of parking lot trees in industrial areas, perhaps at a reduced standard instead of the one tree for each six parking spaces required in other areas, to provide shade, reduce glare, and reduce reflective heat.

Residential and commercial development throughout the City is required to provide one tree for each six parking spaces in parking lots to provide shade, reduce glare and reflective heat, and to promote a more attractive appearance. Industrial areas are not required to do the same even though they often have large expansions of asphalt which would benefit from the introduction of trees. The City should consider requiring the planting of parking lot trees in industrial areas but at a reduced rate so as not to create an undue burden on industrial development.

2.5.c Require the removal or screening of all rubbish, abandoned buildings, processing wastes, old equipment, or other forms of blight in industrial areas.

Through the Site Plan Review process, the City requires the screening of unsightly areas from view from the public streets.

2.5.d Investigate the possibility of regulating industrial development on the basis of or in combination with performance standards instead of strictly by definition of specific allowable uses as in the Zoning Ordinance.

Performance standards, if they can be made applicable, have the capability of translating the classified industrial categories (light and heavy industrial) into a well-defined and meaningful system for identifying possible impacts of different industrial uses. Under such a system, industrial land uses can be located and administered in a more effective and flexible manner.

Policy L-2.6

Provide Neighborhood Commercial Centers In Proportion to Residential Development in the City.

Residents of the City should have ready access to commercial services in close proximity to their homes for convenience and to eliminate the need for excessive automobile trips. Neighborhood centers with grocery, drug, video, and other stores which serve the needs of surrounding residents should be distributed throughout the City to serve most residential areas.

Implementing Actions:

2.6.a Neighborhood commercial centers should be located approximately one mile apart along major arterial streets adjacent to residential areas throughout the City.

A one-mile radius is the standard service area for neighborhood commercial centers. Therefore, in order to ensure that most residents in Merced have ready access to commercial services, neighborhood commercial centers should be located at regular intervals (approximately one for each square mile of residential development) along major streets within the SUDP. The Land Use Diagram attempts to meet this standard, but additional sites may need to be designated in the future. The General Plan Annual Review would offer a good opportunity to review neighborhood commercial needs on a yearly basis.

2.6.b Special emphasis should be placed on encouraging the development of neighborhood commercial center(s) in the general vicinity of the South Highway 59 corridor to serve the needs of South Merced residents.

The South Merced area is currently underserved by commercial services. Many South Merced residents need to travel to Central and North Merced for even their basic shopping needs because of the lack of neighborhood commercial services in South Merced. Although several areas have been designated for such development, actual development has not taken place or has been limited. The City will explore alternatives for encouraging neighborhood commercial services in the area. Among the possible tools may be the Enterprise Zone and the Gateways Redevelopment Project Area, both which include this area.

2.6.c Efforts should be made to encourage the development of a neighborhood commercial center in the area east of G Street between Yosemite Avenue and North Bear Creek Drive.

This nearly 2-mile-square-mile area is almost entirely built-out with single-family development, with some scattered duplex development. The only commercial services in the area are located along the far edge of this area, G Street, leaving those residents who live on the eastern edges (Parsons and McKee) over one mile or more from commercial services. There are very few vacant sites left in this area which would be suitable for commercial development. Additionally, residents may be concerned about the impacts of commercial uses on their neighborhoods. Efforts should be made, perhaps through a neighborhood planning process, to determine if there is a suitable commercial site in the area which would be supported by neighborhood residents.

2.6.d Efforts should be made to encourage the development of a neighborhood commercial center(s) in Southeast Merced in the general area east of Parsons Avenue on Childs or Gerard Avenue.

This area bounded by Highway 140 to the north and Parsons Avenue and Highway 99 to the south and west is also underserved by neighborhood commercial uses. Several vacant or underutilized sites are currently zoned for commercial uses but have not been developed with uses that serve the adjacent neighborhoods. The City should explore alternative strategies for encouraging the development of these sites with services to serve the residents of this area.

Policy L-2.7

Locate and Design New Commercial Developments To Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets.

Neighborhood, Regional, Community, and Convenience Commercial areas throughout the City serve many adjacent neighborhoods. Their locations along major arterials also offer these commercial areas good visibility from passing motorists, which allows them to serve more than just their immediate neighbors. Sometimes, however, this leads to the reduced efficiency of these arterials if commercial driveways are allowed to proliferate in areas near major intersections. These problems can be minimized if commercial developments are located and designed carefully.

Implementing Actions:

2.7.a New retail commercial designations shall be located along arterials at their intersections with collector streets (at 1/4 mile or 1/2 mile locations) in new growth areas. These commercial areas should not be located at the intersections of two arterials.

Locating commercial developments at the corners of two major streets is fairly common practice in cities throughout the country. However, these locations, while offering maximum visibility to drive-by traffic, often lead to access and circulation problems. Conflicts often arise between slower motorists entering or leaving these commercial areas and motorists using the arterials for higher speed cross-town trips. These conflicts not only decrease the efficiency of the intersection over time (the number of vehicles able to pass through the intersection within a certain period), but can lead to increasingly difficult access to and from these centers by customers. Locations away from these major intersections but still along arterials at collector street intersections offer the combined benefits of high visibility and easier access for both drive-by traffic and for adjacent residential areas.

On the Land Use Diagram, new commercial centers are located along major streets at their intersections with collector streets at the 1/2 mile point on a mile grid of major arterials. Traffic signals will likely be required at these intersections, providing a full range of turning movements into the shopping areas. Several examples of such developments already exist (Walmart, Olivewood Center, Bear Creek Galleria, Bear Creek Plaza, etc.).

2.7.b Commercial centers shall be designed to provide direct vehicular and pedestrian access from surrounding neighborhoods. In no case shall trips which could be internal (from adjacent neighborhood to center) be forced onto an arterial.

Commercial centers should allow vehicular and pedestrian access from adjacent neighborhoods through the use of internal street access, driveways off of residential streets, and pedestrian accessways.

- 2.7.c The number of commercial driveways on major streets shall be minimized and located in areas where they will cause minimal conflicts with traffic flow on major streets and through intersections.**

Commercial driveways should be kept to a minimum on major streets and located in areas away from intersections where they can cause conflicts with intersection turning movements, traffic flow, and signal loop/detection areas. When possible, they should be placed adjacent to whichever property lines are the farthest distance from the intersection; but in no case should driveways be closer than 25 feet from an intersection.

- 2.7.d Cross-access and shared driveways between adjacent commercial uses shall be provided as much as feasible.**

Adjacent commercial uses should allow access between them without customer traffic having to go back out onto the public streets to travel between uses. Driveways off major streets should be shared as much as feasible between adjacent businesses to minimize the number required on major streets. This should be applied to all new development as much as feasible and to existing development whenever possible.

- 2.7.e Commercial developments shall be designed to encourage pedestrian, bicycle, and transit access.**

Sidewalks, pedestrian accessways, bike racks and/or lockers, on-site transit stops, and transit shelters are among the design features that can be used in commercial areas to encourage alternative modes of access for their customers.

- 2.7.f Continue to implement City Council Resolution #93-10 establishing policy for the location of retail and service related uses in North Merced.**

This resolution states that “the City desires to establish a policy which balances the need for commercial growth with the need to preserve the capacity of arterial streets and achieve long-standing planning objectives.” The resolution sets forth the following guidelines for the location of retail and service-related uses in North Merced (north of Bear Creek):

- 1) “Freestanding retail and service-related uses on arterial streets in North Merced are discouraged in order to minimize the number of driveways and to better control location of driveways in relation to signalized intersections, with the objective of improving safety and not reducing capacity.”
- 2) “Clustering of retail and service-related uses in shopping centers is encouraged for convenient pedestrian circulation, simpler internal circulation, and as a contribution to energy-efficient circulation and improved air quality (less start-and-stop car hopping).”
- 3) “Freestanding retail and service commercial land uses in North Merced should be located either: a) inside shopping centers (subject to the provisions below); or b) outside shopping centers if limited to professional offices, financial institutions, and restaurants.”
- 4) “Freestanding uses in shopping centers and sites which can be integrated with shopping centers are appropriate locations for offices and financial uses, restaurants, auto-oriented uses such as service stations and fast-food restaurants, and retail and service commercial uses providing these uses are consistent with the General Plan and Site Utilization Plan or zoning district.”
- 5) “Uses on freestanding pads should: a) be compatible and consistent in design, materials, and colors with the main building complex; b) have circulation and access consistent with the Site Utilization Plan (SUP) if located in a Planned Development; and c) share common driveways with no new driveways on arterial streets.”

Policy L-2.8

Encourage a Mixture of Uses And Activities That Will Maintain the Vitality of the Downtown Area.

In 1991, the Downtown Merced Market Strategy Task Force (a 25-member group representing a broad range of community interests) was formed to develop a consensus on the proper direction for downtown. They developed the following strategies for achieving the goal of maintaining downtown as the City's center of cultural and civic activity, finance, and government. These efforts would be led by the Economic Development Committee, the Chamber of Commerce, the Merced Downtown Association, the Redevelopment Agency, and others. It has been observed that the presence of a university, even those not adjacent to downtowns, often stimulate downtown retail growth in such areas as theaters, pubs, restaurants, book and clothing stores, and other retail. Merced's future UC campus may have the same effect.

Implementing Actions:

2.8.a Strengthen downtown cultural activities and focus on Merced's cultural diversity.

Strategies for achieving this include development of a senior center, a youth center, and a multi-cultural arts center as well as establishing a major annual event downtown, expanding the Farmers Market, and developing a program to retain or relocate clubs and civic groups to the downtown.

2.8.b Retain all existing and attract new financial service businesses, office uses, and government-related offices in downtown Merced.

The identification of sites for additional financial activities and the recruitment of new institutions (especially back office functions, data centers, and regional headquarters) is a top priority. Existing City and County government offices should be encouraged to remain downtown and new government-related social service offices should be encouraged to locate in the downtown.

2.8.c Create a compact, walkable retail core with multi-cultural offerings and mixed-use development.

Attempts will be made to create unified store hours, recruit restaurants and apparel retailers, intensify the downtown promotion program, and cluster retail uses in a more compact area of downtown (generally bounded by 19th Street, O Street, the Southern Pacific railroad tracks, and Martin Luther King Jr. Way).

2.8.d Develop a mix of regionally-oriented businesses along Highway 99.

Possibilities include further development of a major discount retail center, a freeway-oriented factory outlet center, and an international marketplace as well as renovation of the K-Mart/Savemart Center at 15th and Martin Luther King.

2.8.e Preserve the existing housing stock and build a mix of new higher density housing.

Working with the City Housing Program and the Redevelopment Agency, rehabilitation of the existing housing stock would be pursued through the implementation of financial incentives and policy changes. Affordable high-density infill housing for seniors, low and moderate income households, singles, and downtown workers would be encouraged along with market-rate condominiums.

2.8.f Develop more office space downtown through renovation and new construction

The City will attempt to create more office space downtown for all types of businesses and services concentrated near the retail core. Renovation of upper floors of existing buildings for office use will also be encouraged and a business recruitment program to attract new downtown businesses will be considered.

2.8.g Strengthen transportation systems to support downtown's economic base

Creation of an internal downtown transit system, improvements to the City transit system, and expansion of downtown arterial street capacity would be sought.

2.8.h Develop downtown educational and training facilities and activities

Strategies include the development of a consolidated education center (including Merced College, satellite locations for higher education, and adult education and training) and a downtown day care center.

2.8.i Continue to use Redevelopment funds to upgrade downtown's appearance and infrastructure, to develop new public projects to implement the Downtown strategy, to assist in the development and financing of private projects, and to market the downtown area.

The Merced Redevelopment Agency has been used for all these purposes in the past and should continue to pursue these goals.

3.6 URBAN GROWTH AND DESIGN

Growth in the Merced urban area is expected to continue at or near the same pace as has occurred during the past twenty years. Concern over the pace and direction of growth resulted in the City undertaking a study to identify policies and standards that can be used to guide future growth in a manner that preserves and enhances the present quality of life in Merced.

In 1990, *Merced 2030-How Should We Grow?* analyzed the various growth and expansion options available to the City (Section 2.2.2). As a result of this study, it was determined that the optimum expansion scenario for the City was to pursue a northward growth pattern towards Lake Yosemite and the future U.C. Merced site. It was additionally determined that the urban design of these expansion areas should be based on mixed use, pedestrian- and transit-friendly design principles.

Application of mixed-use, pedestrian- and transit-friendly design principles will be encouraged in all new growth areas of the City, mainly in North Merced through the use of Merced's "Urban Village" model. These same principles have broader implications, however, and can also be applied to developed areas, as feasible, when new development or redevelopment is proposed.

It should be noted that pedestrian- and transit-friendly design does not mean that the automobile is excluded. It simply means that more consideration is given to more effectively accommodating pedestrians, bicycles, and transit as well

as the private automobile. Efficient circulation of automobiles will continue to be emphasized, but not to the exclusion of other forms of transportation.

Mixed-use land use principles are discussed below, followed by a brief description of Merced's "Urban Village" land use concepts. (More details regarding villages are contained in Chapter 6, Urban Design.) Policies regarding the promotion of mixed-use, pedestrian- and transit-friendly neighborhoods are addressed in Section 3.6.3.

3.6.1 Mixed Uses

Promoting the development of "mixed-use" (residential, services and employment) centers helps to minimize reliance on the automobile. Merced's land use planning philosophy promotes development of a mixed use plan which locates commercial, employment, and residential development in relatively close proximity to each other. The City's use of "planned development" zoning, which allows for a mix of uses, illustrates the City's longtime commitment to these principles.

This mixed-use approach, as reflected on the Land Use Diagram, takes the typical elements of urban growth--retail centers, single family and multifamily housing, roads, and public services--and reorganizes them to form a more efficient and pedestrian-friendly development pattern.

3.6.2 Merced's Urban Villages

The fundamental building block for establishing mixed-use, pedestrian- and transit-friendly areas is the *Urban Village*. Urban Villages are compact,

mixed-use districts that will accommodate projected growth, help maintain Merced's present quality of life, and help ensure its continued economic vitality.

Villages achieve these goals by encouraging pedestrian and transit travel, and by planning for more than single-use, low density developments that can generate traffic congestion, air pollution, a scarcity of affordable housing, monotonous landscapes and poor utilization of environmental and land resources.

Guiding Principles

The *Urban Village* and other land use and design concepts have been implemented in the *Merced Vision 2015 General Plan* through the following guiding principles (discussed in more detail in the Urban Design chapter, Section 6.2):

- Conserve natural resource areas that give form and character to the community.
- Promote an urban form that integrates housing, shops, work places, schools, parks and civic facilities.
- Reinforce the elements of the community which give Merced its unique identity.
- Expand the city's non-vehicular transportation network.
- Promote convenient pedestrian and vehicular access to transit, commercial, recreation, and residential places.
- Reinforce the downtown as a focus point in the City.

- Conserve the special qualities of existing neighborhoods and districts.
- Focus residential, commercial, and employment center development to encourage public transit use.
- Maximize the use of city streets as public spaces.
- Assure that development takes place in a balanced manner in order to promote the economic vitality of evolving areas.

Inner Villages

The *Inner Village* is a mixed-use community within an average 1/4 mile walking distance of a transit stop and *Core Commercial* area. All Inner-Villages include a mixture of parks, shops, medium density homes, and civic uses. Inner Villages combine these uses within a comfortable walking distance, making it convenient for residents and employees to travel by transit, bicycle or foot as well as by car. The Inner Village areas are also known as *Village Core Residential Areas*.

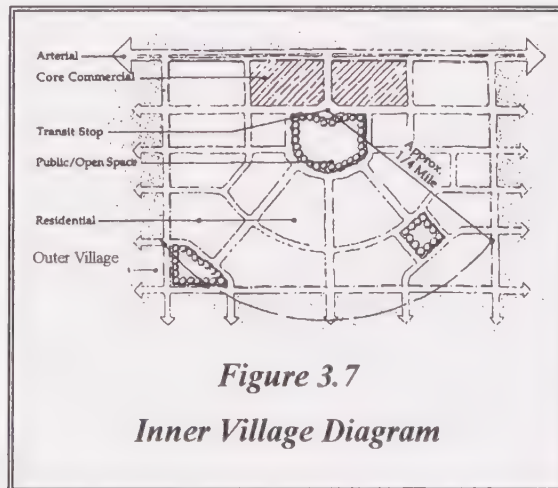


Figure 3.7

Inner Village Diagram

Core Commercial Areas

Each Village must have a mixed-use *Core Commercial* area located immediately adjacent to the Inner Village

or Village Core Residential neighborhoods. At a minimum, this core area should provide convenience retail and civic sites. Larger cores may also include major super-markets, professional offices, day care, restaurants, service commercial, entertainment uses, comparison retail and other retail stores. A transit stop and village green should be located between commercial uses and Village Core Residential areas.

Outer Villages

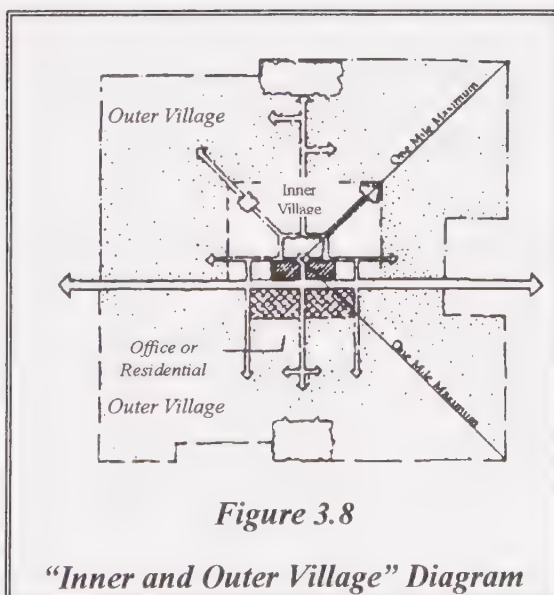
Less compact areas surrounding the Inner Villages contain traditional single-family housing, some office uses, schools, and open space. These areas are known as the *Outer Village*. The Outer Villages are tied to the Inner Villages by a local network of connector streets. This convenient network eliminates the need for local trips on area arterials, thereby reducing demand on these roads. The local street system, on the other hand, is designed to be inconvenient for through traffic, providing safe paths for pedestrians and bicyclists.

These Outer Village areas are simply traditional single-family neighborhoods, except that an emphasis is placed on convenient access to the mixed-use areas. The majority of land in the “Villages” on the Land Use Diagram are Outer Village areas.

Distribution of Villages

Villages should be distributed in a pattern that allows the greatest number of residents access to a variety of shopping opportunities. Villages should also be located to permit residents to walk to retail and public facilities without having to cross an arterial street. Villages need locations that take advantage of main transit lines and existing retail market demand.

Villages should be located to maximize access to their Core Commercial areas from Outer Village Areas without relying on arterial streets. Villages with major retail centers should be spaced at least one mile apart and distributed to serve various growth subareas. Generally, there should be one Village for each full square mile bound by arterial streets, except in rural areas.



3.6.3 Urban Growth and Design Goals, Policies, and Actions

Goal Area L-3: Urban Growth and Design

GOALS

- Living Environments which Encourage People to Use a Variety of Transportation Alternatives
- A Compact Urban Village Design for New Growth Areas
- Self-sustaining, Mixed-Use, Pedestrian-Friendly Neighborhoods

POLICIES

- L-3.1** Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.
- L-3.2** Encourage infill development and a compact urban form.
- L-3.3** Promote site designs that encourage walking, cycling, and transit use.

Policy L-3.1

Create Land Use Patterns That Will Encourage People to Walk, Bicycle, or Use Public Transit For an Increased Number of Their Daily Trips.

Existing land use patterns in some of the City of Merced, like many other urban areas in the San Joaquin Valley, are not conducive to walking, cycling, and transit use. Many office developments have low employment densities and are often isolated from commercial services, forcing people to drive to eat lunch or to complete errands. High-density residential projects often have little if any commercial development nearby or discourage pedestrian access to commercial uses with block walls and large parking lots. The most common single family lot size of 6,000 to 10,000 square feet leads to population densities too low to support frequent and direct transit service. The predominant suburban development patterns force all local trips for shopping, recreation, school, as well as commute trips onto the arterial street system. This leads to ever wider, more congested arterial streets which in turn discourage people from walking or cycling to even nearby destinations.

Implementing Actions:

3.1.a Encourage pedestrian or transit-friendly designs at suitable locations.

Most of the new growth areas in North and South Merced would be appropriate for pedestrian- and transit-friendly developments. Encourage the preparation of a specific or community plan for large scale new development which incorporates the goals and policies of the City's Urban Design Chapter.

3.1.b Work to preserve and enhance existing neighborhoods and commercial districts which have transit and pedestrian-friendly designs.

Pursue redevelopment projects to improve the image of pedestrian-friendly neighborhoods and shopping districts (pedestrian amenities, street trees, transit facilities, etc.).

3.1.c Plan areas for higher density development within 1/4 mile of locations identified as transit hubs and commercial centers.

Review and revise as necessary the City's development and the Zoning Ordinance standards and maps designating high-density land uses in areas planned for transit hubs and commercial centers.

3.1.d Encourage higher housing densities in areas served by the full range of urban services.

- Encourage high and medium-density housing at sites within walking distance of transit and neighborhood commercial services during general plan updates and developer initiated general plan amendments.
- Consider higher housing densities for areas around existing and planned transit hubs.
- Encourage developers to take advantage of density bonus provisions of the Zoning Ordinance for projects located around transit hubs on existing or planned transit corridors.

3.1.e Encourage mixed-use developments that provide commercial services such as day care centers, restaurants, banks, and stores near employment centers.

Establish mixed-use zone district standards. Tailor the allowed uses to those best suited for a pedestrian environment.

3.1.f Work closely with school districts to help them choose school site locations that allow students to safely walk or bicycle from their homes.

When specific plans or subdivisions propose school sites for dedication, accept sites that emphasize the ability of students to safely walk or bicycle to school. Incorporate school sites into larger neighborhood activity centers where practical; this concept could include parks, day care facilities, and neighborhood commercial uses. Schools will be encouraged to locate adjacent to Village Core Residential Areas.

3.1.g Encourage regional shopping malls/centers at sites capable of support by a full range of transportation options.

Identify sites with access by freeway or major arterial and potential for light rail access. The site could be a regional transit hub and major pedestrian-oriented activity center to increase transit mode share.

3.1.h Consider air quality and mobility when reviewing any proposed change to the land use pattern of this community.

This step could be part of a CEQA process established by the City of Merced in reviewing General Plan Amendments.

Policy L-3.2

Encourage In-Fill Development and a Compact Urban Form.

Sprawling, low-density and discontinuous development discourages the use of alternative transportation modes and increases travel distances. Infrastructure costs and most environmental impacts are less when development is more compact.

Implementing Actions:

3.2.a Encourage infill of vacant parcels.

- Conduct a survey of vacant lands. Develop strategies for encouraging their development with appropriate uses.
- Encourage infill projects that are determined to be compatible with existing development.
- Encourage growth to occur in and around activity centers, transportation nodes, underutilized infrastructure systems, and redevelopment areas.
- Work with land owners to re-designate vacant lands suitable for higher densities or for transit/pedestrian-oriented developments during general plan updates and periodic reviews.

3.2.b Encourage infill and redevelopment projects within the urban area that could enhance the effectiveness of the transit system.

- Encourage projects that increase pedestrian activity and mixed-uses.
- Encourage commercial uses that are complementary to urban employment centers.
- Strategically locate high-density development to provide good transit access.

(Notes: Please refer to the Urban Expansion Chapter for policies relating to keeping a compact urban form while promoting urban expansion.)

Policy L-3.3

Promote Site Designs That Encourage Walking, Cycling, and Transit Use.

Most developments are designed to provide the most direct and convenient access by car at the exclusion of other modes of transportation. It is possible to design sites in ways that encourage less polluting transportation modes and still support access by motor vehicle.

Implementing Actions:

3.3.a Encourage project designs which increase the convenience, safety and comfort of people using transit, walking or cycling.

Review the City's Zoning Ordinance for possible amendment to include air quality design standards. Design standards must be general enough to apply under all but the most unusual circumstances to avoid the need for numerous zone variances and modifications. Some design measures like sidewalk widths and landscaping requirements are very appropriate for design standards. Design measures dealing with parking lot designs and building facades may be better left as guidelines because of site to site differences.

3.3.b Encourage all subdivision street and lot designs, commercial site plans, and multi-family site plans to improve access by transit, bicycle, and walking.

Review the City's development review procedures and modify, as appropriate, to include policies that accommodate access and internal circulation by alternative transportation modes. Develop design guidelines that illustrate preferred designs.

Just a few examples of design measures that could be recommended during design review include:

- Direct access to commercial centers from surrounding neighborhoods.
- Intra-development designs that incorporate integrated street patterns rather than designs which limit ingress and egress options to the development and restricts traffic to a limited number of arterials.
- Primary ground floor commercial building entrances should orient to plazas, parks, or pedestrian-oriented streets, not to interior blocks or parking lots as feasible.
- Promote the use of trees and plants in travelway landscaping and residences.
- Building facades should be varied and articulated to provide visual interest to pedestrians.
- Street trees should be placed in planter strips or tree wells. Tree species should be selected to create a unified image for the street and provide an effective canopy.
- Sidewalks should provide an unobstructed path. Larger sidewalk dimensions are desirable in commercial areas where pedestrian activity will be greatest.
- Encourage the use of front porches, bay window, and balconies which face onto the street to increase social interaction and provide heightened security for residential streets.

3.3.d Encourage all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus or transit corridor stop, to incorporate site design measures that improve accessibility to the transit system.

Analyze existing land use patterns and constraints around transit facilities to identify appropriate design measures

3.7 SPECIFIC PLANS/ MASTER DEVELOPMENT PLANS

In 1996, the City of Merced had three adopted “Specific Plans” and one “Master Development Plan,” all located in the North Merced planning area. These plans were developed as a way of master-planning large areas under consideration for development. Most of these plan areas were under the ownership of a single property owner or a limited number of property owners at their time of adoption. The plans include detailed descriptions of land use, circulation, public improvements, and open space for the area as well as conditions of approval regarding the developer’s obligations for installing needed infrastructure.

These “Specific Plans” do not necessarily conform with the requirements of Government Code Section 65450 *et seq.* They were developed as a guide for infrastructure development and to provide the land owners some direction with respect to City intentions and concerns for these areas. This planning practice is legally consistent with the City of Merced’s status as a charter city.

3.7.1 *Fahrens Park Specific Plan*

The *Fahrens Park Specific Plan* was originally adopted in 1984 and was substantially amended in 1990 and 1996. The specific plan area includes approximately 300 acres bounded by R Street to the east, Yosemite Avenue (extended) to the north, Highway 59 to the west, and Black Rascal Creek to the

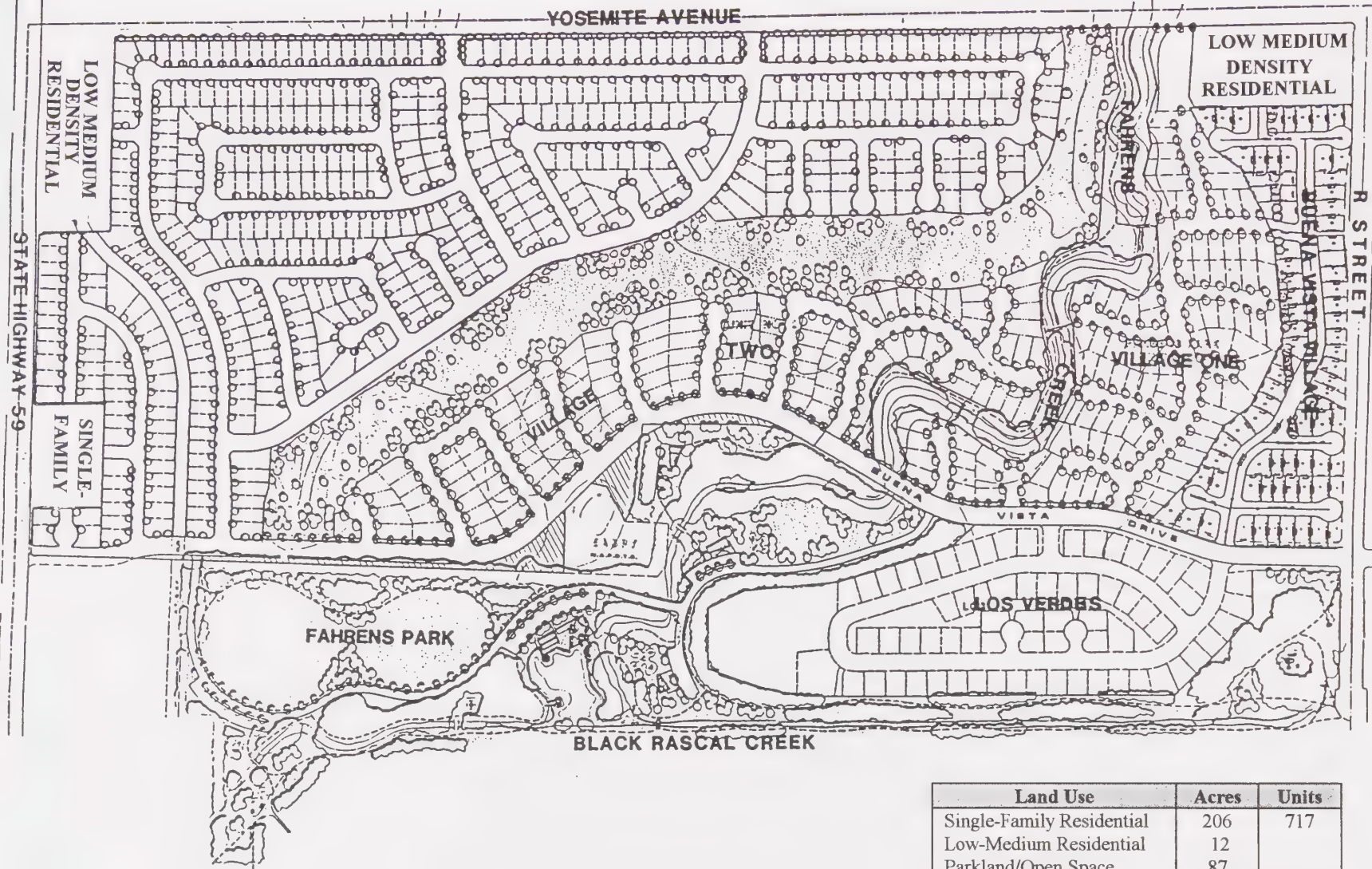
south (*Figure 3.9*). The specific plan calls for single-family residential development, open space (including Fahrens Community Park and a flood control channel), along with a small amount of medium-density residential development.

3.7.2 *Campus North Specific Plan*

The Campus North Specific Plan was originally adopted in 1985 and was substantially amended in 1990 and 1997. The specific plan area includes 78 acres generally located west of G Street, north of Black Rascal Creek, and south of Donna Drive (*Figure 3.10*). The plan calls for single-family homes on standard and small lots, a 350-unit senior housing and healthcare campus, and 5 acres of professional office uses.

3.7.3 *Northeast Yosemite Specific Plan*

The *Northeast Yosemite Specific Plan* was adopted in 1989 and has undergone some minor revisions since that time. The specific plan covers the square mile (640 acres) bounded by Yosemite Avenue to the south, G Street to the west, Cardella Road to the north, and Gardner Road to the east (*Figure 3.11*). The plan currently calls for mostly single-family residential development with some duplex and multi-family development. Other uses include three church sites, Cruickshank Middle School, a 10-acre park site, and a small neighborhood commercial site. The Land Use Diagram proposes the addition of a 25-acre professional office site on the south side of Cardella, one-half mile east of G St.



Land Use	Acres	Units
Single-Family Residential	206	717
Low-Medium Residential	12	
Parkland/Open Space	87	
TOTAL	306	717

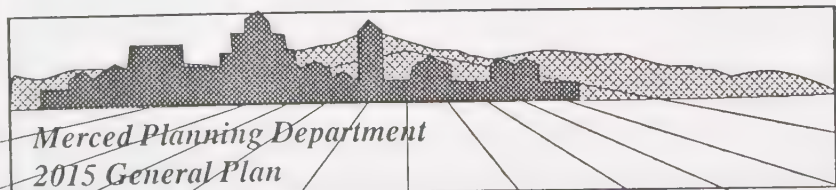
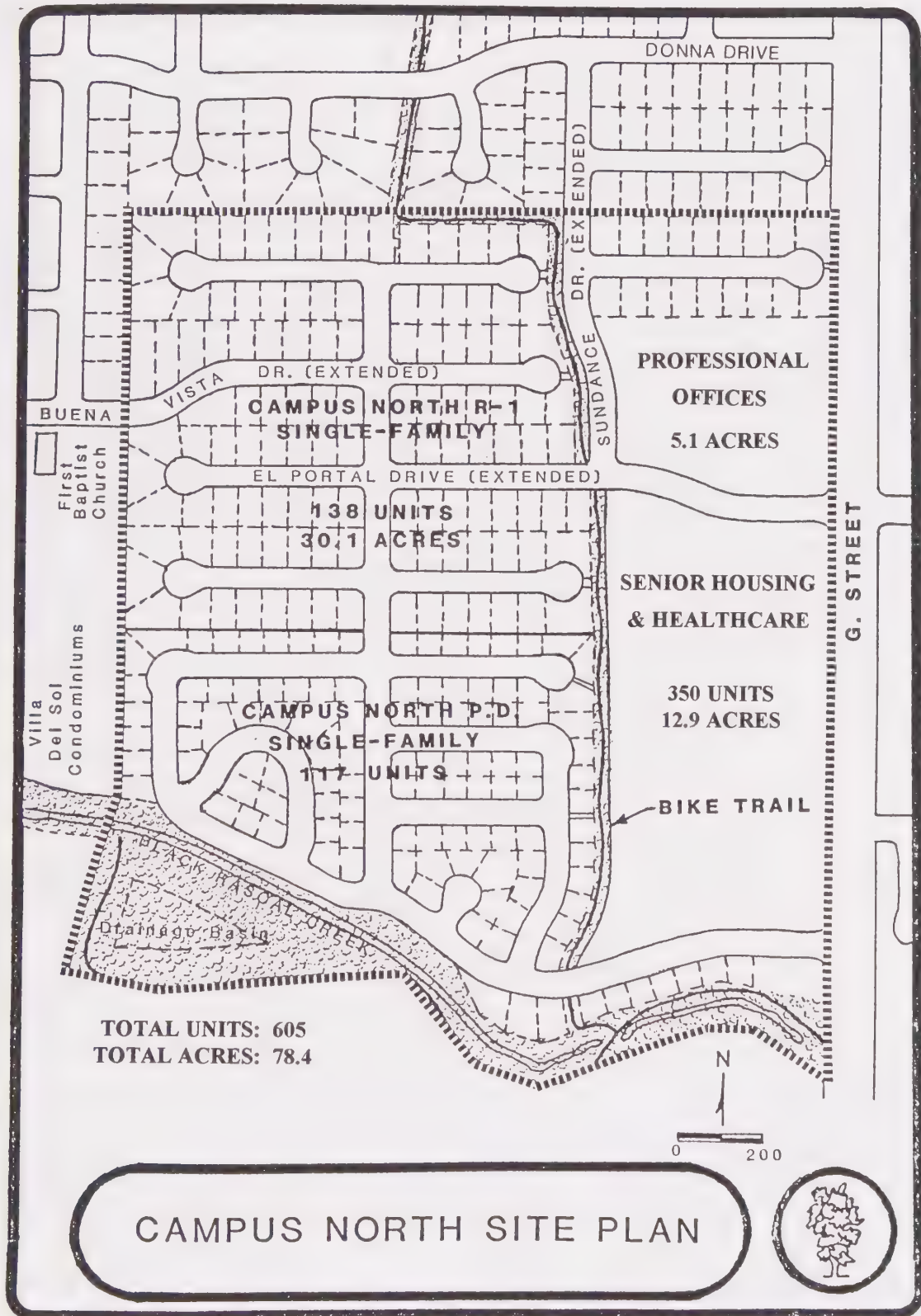


Figure 3.9

Fahrens Park Specific Plan



CAMPUS NORTH SITE PLAN

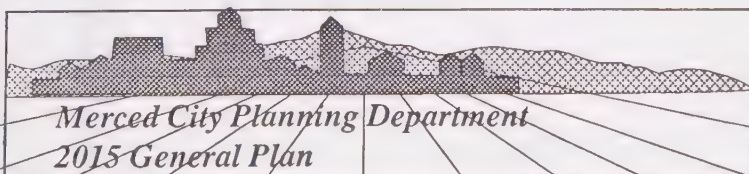
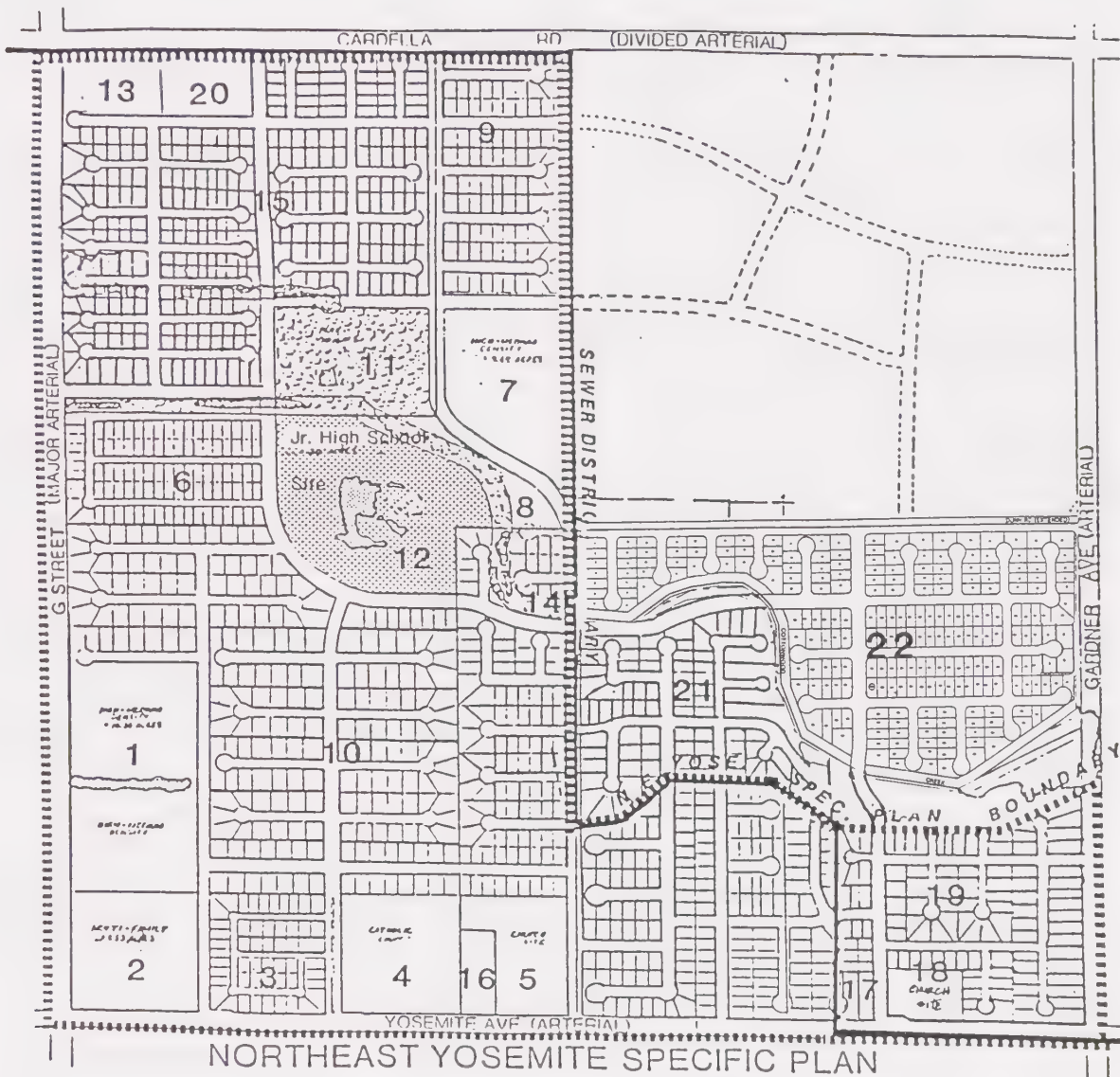


Figure 3.10

Campus North Specific Plan



1. 310 Apartments/ Condominiums (± 17.21 Acres)
2. 160 Apartments/ Condominiums (± 8.93 Acres)
3. 45 Single Family Residences
4. Catholic Church (± 9 Acres)
5. Church Site (± 8 Acres)
6. 92 Single Family Residences
7. 155 Apartments/ Condominiums (± 9.68 Acres)
8. 20 Apartments/ Condominiums (± 1.5 Acres)
9. 95 Single Family Residences
10. 560 Single Family Residences



Park & Open space Space



School

TOTAL UNITS 2,010

11. Park (± 10 Acres)
12. School (± 20 Acres)
13. 72 Duplexes (± 8 Acres)
14. Cottonwood Creek/ Blkeway (± 7 Acres)
15. 144 Large Lot Residences (± 74 Acres)
16. Private Residence (± 2 Acres) (exisL)
17. Private Residence (exisL)
18. Church Site
19. 118 Single Fam. Residences
20. Commercial Site
21. 96 Single Fam. Residences
22. 238 Single-Family Residences

— Sewer District Bound.

||||| Specific Plan Bound.

Existing Trees

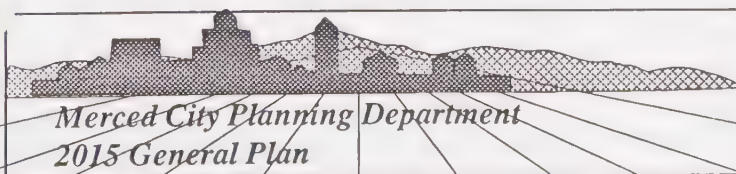
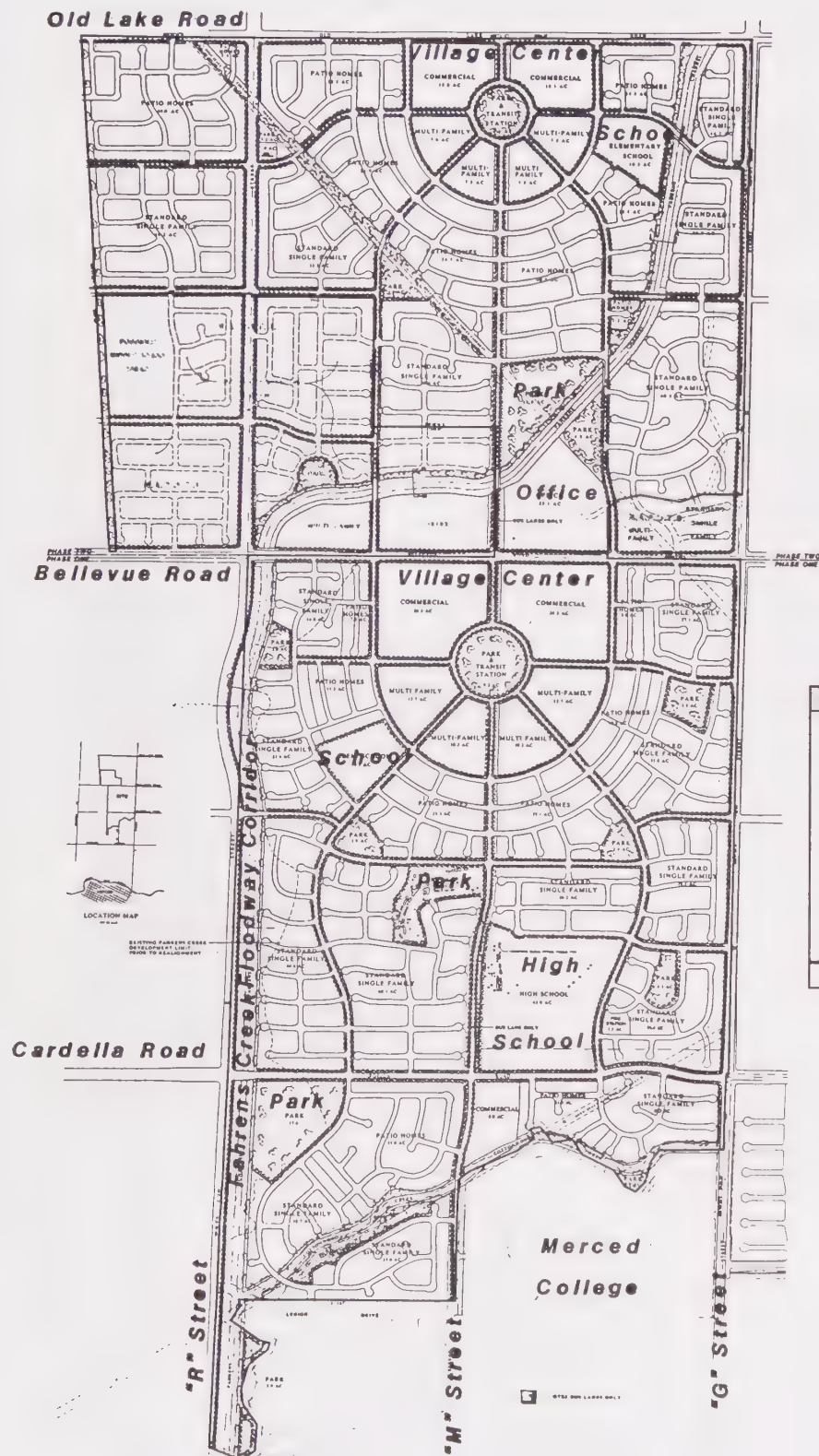


Figure 3.11

Northeast Yosemite Specific Plan



Land Use	Acres	Units
Single-Family Detached	561	2,247-2,808
Single-Family-Patio Homes	334	1,837-2,171
Multi-Family	76	759-1,669
Commercial	92	
Office	23	
Elementary Schools	21	
Park and Transit Station	15	
Park	78	
Open Space/Creeks	120	
High School	43	
Fire Stations	2	
TOTAL	1,365	4,843-6,648

Figure 3.12

3.7.4 Bellevue Ranch Master Development Plan

The *Bellevue Ranch Master Development Plan* was adopted in June 1995. The master plan covers 1,365 acres, generally bound by Old Lake Road to the north, G Street to the east, Cottonwood Creek, Merced College, and Lehigh Drive to the south, and the future extension of R Street to the west (**Figure 3.12**). The plan calls for a great deal of single-family residential and multi-family residential development as well as a substantial amount of retail commercial and professional office development adjacent to the east-west arterials running through the site. Other uses include two or perhaps more elementary school sites, one high school site, nearly 200 acres of park land and open space, and two fire station sites.

The Bellevue Ranch project was designed in accordance with the “Urban Villages Concept”, which allows for an integration of residential, commercial, open space, and public facility uses within the framework of a transit-oriented circulation system. The Master Development Plan is the tool for implementation of the *Merced Villages Design Guidelines* and the policies of the General Plan while serving as a bridge between the two policy documents. This plan will guide the overall development of the project, coordinate the mix of land uses, provide for adequate circulation between uses, and identify the required infrastructure and public facilities.

3.7.5 Proposed Specific Plans

The Specific Planning process is envisioned as an important implementation tool in the *Merced Vision 2015 General Plan*. It is important to note, however, that it is intended to be a flexible tool that accomplishes a specific planning purpose and does not unnecessarily frustrate the development process.

As envisioned in this plan, a “Specific Plan” may or may not conform with the requirements of Government Code Section 65450. A specific plan may be limited to a specific development concern or issue in a planning area. It may or may not need to conform to the public hearing processes generally required of specific plans, depending on the issue(s) addressed in the plan.

Proposed Specific Plans

The Land Use Diagram proposes the establishment of four additional specific plan areas (**Figure 3.13**). These areas are as follows:

- 1) *South Merced--West Specific Plan*: Approximately one square mile, bounded by Childs Avenue to the north, West Avenue to the west, Mission Avenue to the south, and South Highway 59 to the east.
- 2) *South Merced--East Specific Plan*: Approximately two square miles, bounded by Childs Avenue to the north, South Highway 59 to the west, Mission Avenue to the south, and Highway 99 to the east.

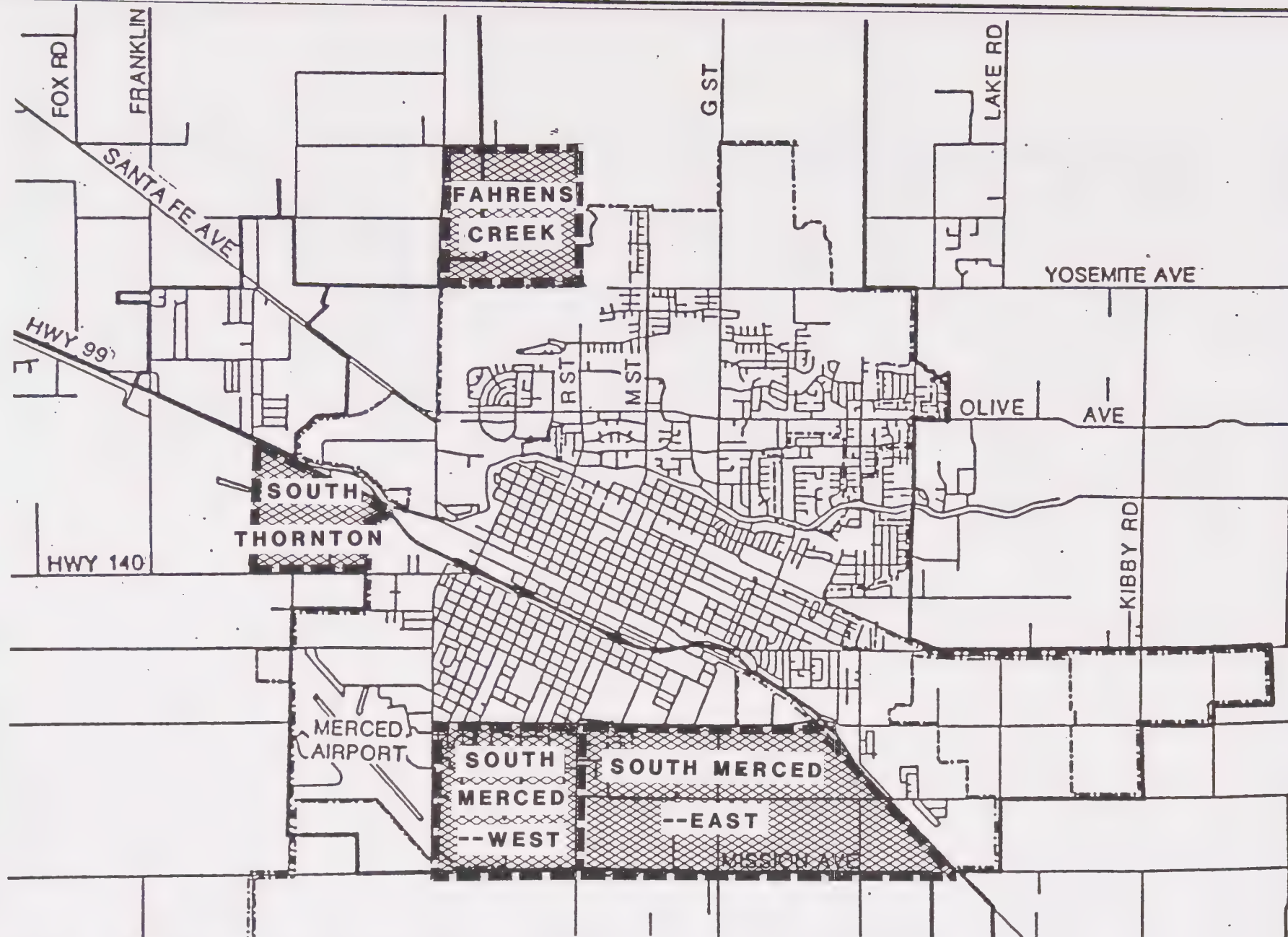
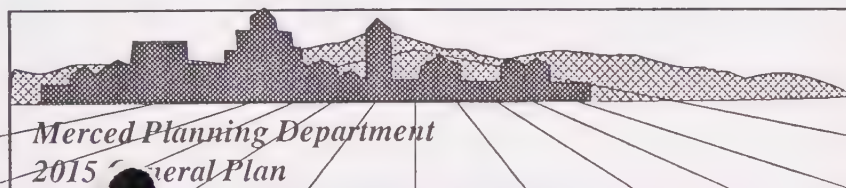


Figure 3.13

Proposed Specific Plans



- 3) *South Thornton Specific Plan:* Approximately 350 acres, bounded by Highway 99 to the north, 1/4 mile west of Thornton Avenue to the west, Highway 140 to the south, and Massasso Road to the east.
- 4) *Fahrens Creek Specific Plan:* One square mile, bounded by Highway 59 to the west, Yosemite Avenue to the south, R Street (extended) to the east, and Cardella Road (extended) to the north.

North Merced Specific Plan Needs

The Land Use Diagram, which shows the land uses proposed for the expansion areas of North Merced, provides specific direction for the development of this area. Future specific planning concerns in this area should focus on the issues of infrastructure, timing and phasing of development, and the means by which infrastructure and other necessary improvements can be financed.

These issues need to address area-wide concerns beyond an individual property or development site. This planning effort, unless it results in a substantial modification to the planned use of land in the area, would not normally require public hearings or review beyond what would normally be required for the specific development entitlement requested (i.e. subdivision map, annexation, re-zoning, etc.).

South Merced Specific Planning Needs

Through the General Plan update process it was determined that there were a number of important land use issues which needed to be addressed in the South Merced area. It was also felt that

these issues could only be adequately addressed with a high degree of neighborhood and property owner participation given the developed nature of the area.

Important questions concerning the sizing and location of commercial and open space areas need to be examined, in light of the City's Village development concept and the interest in promoting transit-friendly development in Merced. This latter concern will become more critical in future years as the UC campus area develops.

The specific plan process in South Merced is envisioned to be focused on refining existing land use proposals in the area. Infrastructure concerns would need to address areas presently undeveloped or under-developed as well as the need to upgrade some infrastructure in the built-up areas.

The location of schools, park land and transit facilities to serve this area would need to be evaluated in light of possible changes in existing land use.

Present land use proposals, as depicted on the Land Use Diagram for South Merced, are considered "interim" land uses until such time as the specific plans for this area are completed and adopted. (The interim designation for most of these areas is "Residential Reserve.") These Specific Plans are expected to result in modifications to the Land Use Diagram and would become Merced General Plan amendments subject to the requirements of state law for public hearings and review.

Specific Plan Guiding Principles

The following guiding principles should be used in developing these specific plans:

- 1) The “Urban Villages” concept should be considered and reviewed for feasibility for implementation in this areas as part of the planning process.
- 2) In South Merced, non-residential uses shall be considered for areas within the Merced Municipal Airport Clear Zones.
- 3) Rehabilitation, redesignation, and redevelopment of existing blighted uses should be considered (for example, the auto wrecking yards near Childs and Highway 99 and the residential and heavy commercial areas east of the Airport).
- 4) Plans which include or are adjacent to established neighborhoods will address the needs of these neighborhoods and potential adverse impacts resulting from plan implementation.
- 5) The specific planning process should be focused on the planning issues or concerns which need to be resolved for that planning area and, to this degree, provide data, information or policy clarification necessary to carry out the goals of the *Merced Vision 2015 General Plan*.
- 6) In instances where the plan results in changes in land use from existing policy, extensive public participation by area residents and property owners in the planning process will be emphasized.

The City shall undertake the development of these specific plans subsequent to the adoption of the General Plan. The costs of developing the plan may be assessed to those builders and developers

who will benefit from the plan as development takes place.

3.8 ISSUES FOR FUTURE STUDY

There are areas within the City’s Planning Area which will require future study. These areas are not expected to build-out during the 20-year life of this General Plan, but they will affect the future growth of the City.

3.8.1 Year 2015 to 2030 Expansion Area

During the *Merced 2030* process in 1990 (Section 2.2.2), the “Northern City” growth scenario was adopted. This scenario represented the projected City expansion area up to the year 2030. The General Plan Land Use Diagram and 2015 SUDP includes the portion of that area that is projected to meet our growth needs up to the year 2015. Future general plan updates will likely consider development for the rest of the 2030 area north of the 2015 SUDP.

This area contains the Merced County Landfill on its westerly boundary and extends beyond La Paloma Road to the north and east around the U.C. Campus site. Special concern and consideration should be given to this area to assure its availability for Merced City urban expansion beyond the year 2015. Additionally, extension of infrastructure to the area should reflect the need to provide adequate buffers around the County’s solid waste disposal site.

3.8.2 U.C. San Joaquin (Merced) Joint Planning Area

The area surrounding the proposed U.C. campus site, comprised of approximately 10,000 acres, has been identified by both the City of Merced and Merced County as an area requiring cooperative planning. Such joint planning can help assure the availability of services and infrastructure to the area and the proper integration of land uses between this area and the adjacent City urban area.

A joint planning process has been established for the UC area. This process is described in Section 2.6.1 of the Urban Expansion Chapter.

3.8.3 Mission Avenue Corridor

The City's expanded SUDP boundary ends at Mission Avenue. An area extending from Thornton Road to Highway 99 for one-quarter mile south of Mission Avenue is included in the expanded Sphere of Influence, however. This is because of its relationship to the Mission Avenue circulation corridor, and the possible impact that development on the south side of the corridor could have on its capacity and efficiency.

This area may be appropriate for employment centers in the long-term when Mission Avenue is developed as an arterial and the Mission/Highway 99 interchange is built. Future planning of this area should reflect the potential for employment centers in this area and the necessary infrastructure and housing opportunities necessary to support such development. In the interim, this area should be considered a reserve with agriculture uses being allowed.

3.9 GENERAL PLAN LAND USE DESIGNATIONS

The following Land Use Designation descriptions define the Land Use Areas depicted on the Land Use Diagram of this General Plan. These General Plan Land Use Designations describe the extent of the uses of land within the Merced Urban Planning Area including standards of population density (dwelling units per acre) and building intensity (floor area ratios)¹ as required by Section 65302(a) of the California Government Code.

1) RESIDENTIAL LAND USE DESIGNATIONS

A) RR (Rural Residential)

a. Purpose and Intent: To provide single family homes on large lots in a semi-rural environment and provide a long term low-density residential buffer between agricultural land and other environmentally sensitive or resource areas and the urbanized areas of the City of Merced.

b. Locational Criteria: RR areas may be designated along the interface between the more urban areas of the City of Merced and the boundaries of the City's SUDP and/or lands adjacent to Agricultural or other Open Space areas within the City's SUDP. The primary areas appropriate for this designation are the west and east sides of the City's SUDP.

¹ See definition at the end of this section or in Chapter 12, Glossary.

c. Land Use Density and Intensity of Use: The Residential Density within the RR area is one dwelling unit per gross acre. Up to three dwelling units per acre are allowed if public sewer and water systems are available.

B) LD (Low Density Residential)

a. Purpose and Intent: To provide single family residential dwellings served by City services throughout the City of Merced. This designation consists primarily of single-family detached housing, but a diversity of single-family housing types, such as condominium and zero-lot-line residential units, can be developed.

b. Locational Criteria: LD areas may be designated throughout the City with lower densities typically toward the edges of the City's growth, adjacent to the RR, or other urban "buffer" areas. This residential classification can also be applied along special planning areas such as scenic corridors and Open Space areas.

c. Land Use Density and Intensity of Use: The Residential Density within the LD land use classification is 2.0 to 6.0 dwelling units per gross acre.



C) LMD (Low-Medium Density Residential)

a. Purpose and Intent: To provide duplexes, triplexes, four-plexes, condominiums, zero-lot-line as well as single-family detached units on appropriately sized lots.

b. Locational Criteria: LMD areas are typically designated close to commercial or other services and adjacent to parks and playgrounds. This land use classification should be applied in areas near major streets and thoroughfares for convenient access and on in-fill sites.

c. Land Use Density and Intensity of Use The Residential Density within the LMD land use classification is 6.1 to 12.0 dwelling units per gross acre.



D) HMD (High-Medium Density Residential)

a. Purpose and Intent: To provide areas for multi-family development such as apartments, higher density triplex/fourplex units and condominiums.

b. Locational Criteria: HMD areas may be applied to areas near commercial centers or other similar uses and areas with convenient access to a major thoroughfare and/or public transportation.

c. Land Use Density and Intensity of Use: The Residential Density within the HMD land use classification is 12.1 to 24.0 dwelling units per gross acre.

E) HD (High Density Residential)

a. Purpose and Intent: To provide for the highest multi-family residential densities typically found only in limited areas of the City.

b. Locational Criteria: HD areas may be designated in close proximity to employment centers, the downtown area of Merced or other suitable sites near public transportation and services.

c. Land Use Density and Intensity of Use: The Residential Density within the HD land use classification is 24.1 to 36.0 dwelling units per gross acre.

F) RMH (Mobile Home Park Residential)

a. Purpose and Intent: To provide designated areas within the City for the establishment and maintenance of Mobile Home Park residential environments.

b. Locational Criteria: RMH areas may be designated on large parcels of land with good access to City streets and State highways. RMH sites should be well buffered from traditional single-family residential

neighborhoods and may be considered appropriate low maintenance, low to medium priced senior citizen housing.

c. Land Use Density and Intensity of Use: The Residential Density within the RMH land use classification is 6.0 to 10.0 dwelling units per gross acre.

G) VR (Village Core Residential)

a. Purpose and Intent: To provide for the development of “urban villages” in the undeveloped portions of the Merced SUDP. The VR designation is intended to provide general guidance for development of the residential areas within 1/4 mile of designated Village Commercial Core areas. This category is titled simply “Village Residential” on the Land Use Diagram.

b. Locational Criteria: The VR designation is to be applied within a 1/4-mile radius of designated “Village Commercial Core” areas on the Land Use Diagram. A range of densities and dwelling types are permitted in Village Core Residential areas as long as the average minimum density (10 du/ac) is met.

c. Land Use Density & Intensity of Use: Villages are mixed-use areas. Residential densities within Village Core Residential areas must be a minimum of 7 units per acre, an average minimum of at least 10 units per acre, and a maximum of 30 units per acre.

**H) RES-R (Residential Reserve)
(see page 3-69)**

2) COMMERCIAL LAND USE
DESIGNATIONS

A) CO (Commercial/Professional Office)

a. Purpose and Intent: To provide for a broad range of office commercial uses within the City of Merced, recognizing the changing character and needs of professional office users with the advent of improved information processing technology and the overall economic base of the City and the region.

b. Locational Criteria: CO areas should be encouraged as employment centers adjacent to established commercial areas and residential centers to minimize trip generation and vehicle trip length.

c. Land Use Intensity: The land use intensity within the CO land use classification is an average Floor Area Ratio (FAR) of 0.50 square feet of building area per square foot of net acreage of an individual site (or 0.39 when applied to gross acres). Lower FAR's are appropriate for large commercial business office complexes and regional office centers.

d. Typical Commercial-Professional Office Uses:

Professional Office: Typical professional activities are medical, dental, law, engineering, counseling, and architectural offices on a relatively small-scale with few employees and where the public is usually seen by appointment only. Merced's professional offices are located mostly downtown, near

Mercy Hospital and the County Courthouse, and along the Olive Avenue and G Street corridors.

Commercial/Business Office: Commercial/business office activities include real estate agencies, insurance agencies, financial institutions (banks and savings and loan), and travel agencies on a relatively small scale and where the public is welcomed without appointment. Merced's commercial offices locate in most of the same areas as professional offices, but they tend to concentrate more along the heavily traveled corridors.

Regional/"Back" Office: Large office uses with a large number of employees come in two varieties. Traditional "back" offices, like Farmer's Insurance, have large numbers of employees working in a central location processing applications, orders, loans, etc. from a large regional area with little or no public contact. These offices can be located almost anywhere as long as there is enough land and the site has good access. Government and public utility regional offices, such as the City of Merced, the Merced County Courts and Administrative Complex, and PG&E's M Street office, also house large numbers of employees in a central location, but also have frequent interactions with members of the public. These types of regional offices are often located downtown.



B) CN (Neighborhood Commercial)

a. Purpose and Intent: To provide sites for retail shopping areas, primarily in shopping centers, containing a wide variety of businesses including retail stores, eating and drinking establishments, commercial recreation, auto services etc., to serve residential neighborhoods.

b. Locational Criteria: CN areas should be designated within planned Village Centers and adjacent to neighborhoods in the Merced urban area, spaced approximately 1 mile apart along arterials.

c. Land Use Intensity: The land use intensity within the CN classification is an average Floor Area Ratio (FAR) 0.35 square feet of building area per square foot of net acreage of an individual site (or 0.27 when applied to gross acres).

d. Typical Neighborhood

Commercial Uses: Under the City's current zoning, neighborhood centers are designed to provide for the sale of convenience goods (food, drugs, and sundries) and personal services, which meet the daily needs of an immediate

neighborhood trade area. Grocery stores, bake shops, drug stores, beauty shops, dry cleaners, video rental stores, offices, banks, and restaurants are typical uses.

Existing neighborhood centers in Merced vary in size and scale, including Bear Creek Galleria, Bear Creek Village, Payless Plaza, Raley's Shopping Center, and smaller centers along G Street at Alexander Ave., Brookdale Dr., and 16th St.

C) CV (Convenience Commercial)

a. Purpose and Intent: To provide sites for small 1 to 5 acre centers with mini-markets (e.g. "7-11"), fast food restaurants, small specialty shops, video rentals, coin laundries, beauty salons, and small professional offices. They are meant to serve the convenience shopping needs of the surrounding neighborhood and should not contain major anchor stores.

b. Locational Criteria: CV areas should be designated within planned Village Centers and areas which may not have the market support for full CN centers. They should be designated along major arterials and adjacent to the neighborhoods they serve.

c. Land Use Intensity: The land use intensity within the CV classification is a average Floor Area Ratio (FAR) of 0.35 square feet of building area per square foot of net acreage of an individual site (or 0.27 when applied to gross acres).

D) RC (Regional/Community Commercial)

a. Purpose and Intent: To provide community and regional commercial centers to serve the full depth and variety of retail goods, general merchandise, apparel, and home furnishings with one or more major department stores as the key tenants. They are distinguished from one another in that regional centers draw from the larger regional market area outside the City. Merced Mall and the downtown are considered regional centers whereas Westgate is more of a community center.

b. Locational Criteria: RC areas are designated in areas with central access to the surrounding region by means of major City thoroughfare or expressway. Since regional centers draw their customer base from a broad area, there is only limited need for development of new regional centers within the Merced SUDP.

c. Land Use Intensity: The land use intensity within the RC classification is a Floor Area Ratio (FAR) of 0.35 square feet of building area per square foot of net acreage of an individual site (or 0.27 when applied to gross acres).

For the Downtown, FAR's of up to 6.0 would be allowed within the Downtown Parking District without any discretionary approval. Any buildings over 60 feet in height require a conditional use permit in the Central Commercial (C-C) Zone, which most of the Downtown is zoned. The C-C zone has no

required setbacks, so large FAR's would be allowed.



E) CT (Thoroughfare Commercial)

a. Purpose and Intent: The primary function of this land use classification is to accommodate auto-oriented commerce and the needs of people traveling on highways. Large recreational facilities and some "heavy commercial" uses are also common. Typical uses include motels, gas stations, truck stops, restaurants, automobile sales, auto repair shops, bowling alleys, driving ranges, skating rinks, souvenir shops, car washes, and nurseries.

b. Locational Criteria: CT areas may be along Highway 99, Highway 59, and Highway 140.

c. Land Use Intensity: The land use intensity within the CT classification is a average Floor Area Ratio (FAR) of 0.35 square feet of building area per square foot of net acreage of an individual site (or 0.27 when applied to gross acres).



F) CG (General Commercial)

a. Purpose and Intent: To provide areas for general commercial uses which are typically land-intensive commercial operations and involve some light manufacturing, repair, or wholesale sale of goods. They may involve transport of materials by heavy trucks and can require large loading and docking areas, which create interface problems with retail uses. Typical uses include lumberyards, automobile wrecking yards, farm equipment or mobile home sales, building supplies, heavy equipment repair, warehousing, machine shops, print shops, nurseries, kennels, and cemeteries.

b. Locational Criteria: CG areas may be designated in a variety of locations with good highway access and in the vicinity of established industrial centers. Most general commercial uses in Merced are located along 16th Street, Martin Luther King Jr. Way, and South Highway 59.

c. Land Use Intensity: The land use intensity within the CG classification is an average Floor Area Ratio (FAR) of 0.35 square feet of building area per square foot of net acreage of an individual site (or 0.27 when applied to gross acres).

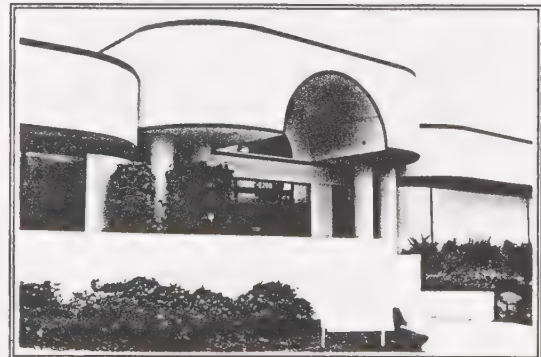
3) BUSINESS PARK DESIGNATIONS

A) BP (Business Park)

a. Purpose and Intent: To provide areas for a mix of commercial, office, and industrial uses with shared access and parking facilities. Uses could include a wide variety of light manufacturing, warehousing, office and service business activities.

b. Locational Criteria: BP areas may be designated in a variety of areas with good access, close to residential population centers and urban service centers to minimize vehicle traffic generation and trip length.

c. Land Use Intensity: The land use intensity within the BP classification is a average Floor Area Ratio (FAR) of 0.40 square feet of building area per square foot of net acreage of an individual site (or 0.17 when applied to gross acres).



4) INDUSTRIAL LAND USE
DESIGNATIONS

A) IND (Industrial)

a. Purpose and Intent: To provide for industrial uses in the Merced SUDP. This designation provides for the full range of industrial uses, including but not limited to manufacturing, food processing, trucking, packing, and recycling, as well as those enterprises which may want to combine office and production aspects of their business in the same complex.

b. Locational Criteria: IND areas may be designated in a variety of locations which are served by a state highway or major arterial, rail and/or air transportation access.

c. Land Use Intensity: The land use intensity within the IND Land Use Classification area is a average Floor Area Ratio of approximately 0.30 to 0.50 square feet of building per square foot of net acreage of an individual site (or around 0.17 when applied to gross acres).

d. Use Classifications: Several types of industrial uses can be proposed within an area designated IND and appropriately zoned. Compatible industrial use types include:

Light Industrial: Light Industrial uses encompass most types of light manufacturing, wholesale, and storage activities, such as warehousing/distribution facilities, packaging, light fabrication and assembly, soft drink bottling, manufacturing of electronic devices, lumberyards, public utility substations, corporation yards, and nurseries. The Western Industrial Park and Airport Industrial Park are Merced's two existing light industrial areas. Light industrial uses are usually compatible with surrounding commercial and residential development.

Heavy Industrial: Heavy industry, which in Merced is concentrated in the Santa Fe Industrial Park along Highway 140, allows heavy manufacturing, food processing, metal fabricating plants, railroad yards, truck depots, etc. Such uses are best located away from residential and most commercial development because of potentially undesirable noise, odor, and traffic impacts. Light industrial uses can also be located in heavy industrial areas. However, to use up limited heavy industrial capacity for other land uses could create long-term capacity problems.



5) **RESERVE LAND USE
DESIGNATIONS**

A) **RES-R (Residential Reserve)**

a. Purpose and Intent: To provide areas for future urban density residential expansion within the Merced SUDP. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.

b. Locational Criteria: RES-R areas may be designated within the Merced SUDP along the urban fringe where growth is not expected within the planning period, and within Specific Plan areas where additional planning is necessary before precise land use designations are determined.

c. Land Use Intensity: The land use intensity within the RES-R Land Use Classification is the same as for the LD classification (2.0 to 6.0 dwelling units per gross acre). However, this density would not apply until the area is redesignated as “Residential” and annexed. In accordance with the City/County Tax Sharing Agreement adopted in 1997, the County can continue to implement existing urban zoning if development adheres to adopted City standards, however, lands zoned A-1 (General Agricultural) will remain rural in character until annexed into the City.

B) **COM-R (Commercial Reserve)**

a. Purpose and Intent: To provide areas for future commercial

expansion within the Merced SUDP. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need and infrastructure improvements.

b. Locational Criteria: COM-R areas should be designated along major thoroughfares or adjacent to highway interchanges where commercial land use is anticipated beyond the 20-year life of this General Plan.

c. Land Use Intensity: The land use intensity within the COM-R Land Use Classification is the same as for the CN classification (0.35 square feet of building per square foot of net area of an individual site). However, this FAR will not apply until the area is redesignated as “Commercial” and annexed. In accordance with the City/County Tax Sharing Agreement adopted in 1997, the County can continue to implement existing urban zoning if development adheres to adopted City standards, however, lands zoned A-1 (General Agricultural) will remain rural in character until annexed into the City.

C) **IND-R (Industrial Reserve)**

a. Purpose and Intent: To provide areas for future industrial expansion within the Merced SUDP. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.

b. Locational Criteria: IND-R areas may be designated in and around established or designated Industrial areas within the Merced SUDP, or in areas identified as having unique industrial utility due to factors such as proximity to transportation, utilities or other necessary industrial infrastructure.

c. Land Use Intensity: The land use intensity within the IND-R Land Use Classification is the same as for the IND classification (0.30 to 0.50 square feet of building per square foot of net acres of an individual site). However, this FAR will not apply until the area is redesignated as “Industrial” and annexed. In accordance with the City/County Tax Sharing Agreement adopted in 1997, the County can continue to implement existing urban zoning if development adheres to adopted City standards, however, lands zoned A-1 (General Agricultural) will remain rural in character until annexed into the City.

D) BP-R (Business Park Reserve)

a. Purpose and Intent: To provide areas for future business park expansion within the Merced SUDP. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need and infrastructure improvements.

b. Locational Criteria: BP-R areas may be designated in a variety of areas with good access, close to residential population centers and urban service centers, to minimize

vehicle traffic generation and trip length where business park use is anticipated beyond the 20-year life of this General Plan.

c. Land Use Intensity: The land use intensity within the BP-R Land Use Classification is the same as for the BP classification (0.40 square feet of building per square foot of net area of an individual site). However, this FAR will not apply until the area is redesignated as BP and annexed. In accordance with the City/County Tax Sharing Agreement adopted in 1997, the County can continue to implement existing urban zoning if development adheres to adopted City standards, however, lands zoned A-1 (General Agricultural) will remain rural in character until annexed into the City.

E) AI (Area of Interest)

a. Purpose and Intent: In accordance with the Merced County General Plan, this designation is applied to areas located outside the City’s SUDP proximate to City territory, but not currently planned for annexation or City service, whose development may impact City planning efforts.

b. Locational Criteria: AI areas, designated north of the City’s SUDP, are identified as part of the urban growth area for the City through the year 2030. An AI “greenbelt” is also located to the west of the SUDP between Merced and Atwater (Section 2.6.3), and an additional AI may be designated in conjunction with the County east of Lake Road.

c. Land Use Intensity: Development in these Areas of Interest is generally limited to agricultural and open space uses, except for areas where substantial urban development exists. Development proposals creating parcel sizes of less than 20 acres in size would be deemed inconsistent with the purpose and intent of this land use policy except were the parcel is being created for public use or benefit.

6) OTHER LAND USE DESIGNATIONS

A) P/G (Public/Government)

a. Purpose and Intent: To provide public facilities such as schools, fire stations, police stations, public buildings (libraries, courthouse, public offices, etc.) and similar types of public uses and facilities.

b. Locational Criteria: P/G areas may be designated in areas according to demonstrated public need, standard public facility location criteria, and procedures applicable to the type of public use.

c. Land Use Intensity: The lands designated for public facilities and uses are not governed by the normal standards of density and intensity of use applied to other land use classifications.



B) OS-PK (Open Space-Park/Recreation Facility)

a. Purpose and Intent: To provide public and private open space for both passive and active outdoor recreation.

b. Locational Criteria: OS-PK areas may be designated in areas containing public parks, golf courses, greens, commons, playgrounds, landscape areas and similar types of public and private open spaces. "Floating" park and school sites are shown on the Land Use Diagram with asterisks (*) to indicate need for such uses in a general area for which no precise location has been identified.

c. Land Use Intensity: Residential and commercial development is limited within areas classified as OS-PK. Limited service commercial activity may be accommodated within this land use classification, provided it is directly related to the recreation activity conducted on site and the Floor Area Ratio does not exceed 0.10.

¹FLOOR AREA RATIO (FAR): The gross floor area of all buildings on a lot divided by the lot area. For example, a building of 10,000 square feet on a 10,000-square-foot lot would result in a FAR of 1.0. It is a measure of development intensity. In the above example, a 5,000-square-foot building but two stories in height would have the same FAR.

Table 3.2
Standards of Population Density and Building Intensity

Land Use Designation	Zoning	Residential Density (Units/Gross Acre)	Average Net Floor Area Ratio (FAR)	Residential Average Persons/Housing Unit	Population Person/Acre (Range)
Residential					
Rural (RR)	P-D**	1.0 to 3.0		3.02	3.0-9.1
Low Density (LD)	R-1-5, R-1-6, R-1-10, R-1-20	2.0 to 6.0		3.02	6.0-18.1
Low-Medium Density(LMD)	R-2	6.1 to 12.0		3.02	18.4 to 36.2
High-Medium Density (HMD)	R-3-1.5, R-3-2	12.1 to 24.0		3.02	36.5 to 72.5
High Density (HD)	R-4	24.1 to 36.0		3.02	72.8 to 108.7
Mobile Home Park (RMH)	R-MH	6.0 to 10.0		3.02	18.1 to 30.2
Village Core Residential (VR)	RP-D**	7.0 to 30.0 (Avg. 10.0)		3.02	21.1 to 90.6
Commercial					
Commercial/Professional Office (CO)	C-O		0.50		
Neighborhood (CN)	C-N		0.35		
Convenience (CV)	P-D		0.35		
Regional/Community (RC)	C-C		0.35 to 6.0		
Thoroughfare (CT)	C-T		0.35		
General (CG)	C-G		0.35		
Business Park					
	P-D**		0.40		
Industrial					
	I-L, I-H		0.30 to 0.50		
Reserve*					
Residential	A-1-20	2.0 to 6.0*		3.02*	6.0-18.1*
Commercial	A-1-20		0.35*		
Industrial	A-1-20		0.30 to 0.50*		
Business Park	A-1-20		0.40*		
Area of Interest	A-1-20		0.10*		
Other					
Public/Government (P/G)	All				
Open Space-Park/ Recreation Facility (OS-PK)	All		0.10		

*Does not apply until area is redesignated from "Reserve."

**New Zoning District(s) may be created for these land uses.

3.10 APPENDIX

3.10.1 Residential Land Needs

The amount of residential land which the City would need to provide to accommodate expected residential development through the year 2015 and beyond was calculated based on projected population growth. *Table 3.3* illustrates the expected population growth within the Merced SUDP, including U.C. off-campus growth through the Year 2035 (expected build-out year of the campus). These projections were derived from population projections for Merced County developed by the Merced County Association of Governments (based on California Department of Finance projections) and estimated population impacts from the *UC San Joaquin Site Selection Environmental Impact Report*.

From these population projections the number of dwelling units were derived,

assuming 3.02 persons per dwelling unit. The number of acres needed for each five-year interval were then determined assuming an average of 5.0 single-family dwelling units per acre and 14.0 multi-family dwelling units per acre. These acreage figures were then added to the amount of developed residential land in the City in 1990.

Table 3.4 illustrates the estimated number of residential acres which will need to be developed to accommodate the expected population growth. The table also indicates the number of acres of residential land which are included on the Land Use Diagram. The table shows that the City will have sufficient land to accommodate the expected population growth at least through the Year 2015.

Table 3.3

*City of Merced Population Projections
(1990 to 2035)*

Year	City 2015 SUDP	U.C. (Off-campus)	Total	Percent of County
1990	60,900	0	60,900	34.1%
1995	73,830	0	73,830	35.2%
2000	84,940	0	84,940	35.5%
2005	100,880	0	100,880	36.5%
2010	116,800	5,850	122,650	38.3%
2015	133,250	12,100	145,350	39.2%
2020	149,700	18,360	168,060	39.7%
2035	202,070	37,140	239,210	42.3%

Table 3.4

*City of Merced Residential Land Needs
(1995 to 2035)*

Year	Population Added ⁽¹⁾	Units Added ⁽²⁾	Single-Family ⁽³⁾		Multi-Family ⁽³⁾		Acres Added	Total Acres
			Units ⁽⁴⁾	Acres ⁽⁵⁾	Units ⁽⁴⁾	Acres ⁽⁵⁾		
1990 ⁽⁶⁾			11,530	4,600	7,510	670		5,270
1995	13,000	4,300	2,580	520	1,720	120	640	5,910
2000	11,100	3,680	2,200	440	1,480	110	550	6,490
2005	15,900	5,270	3,160	630	2,110	150	780	7,270
2010	21,800	7,220	4,330	870	2,890	210	1,080	8,350
2015	22,700	7,520	4,510	900	3,010	220	1,120	9,470
<i>Residential Acres Proposed in SUDP</i>								<i>11,670</i>
2020	22,700	7,520	4,510	900	3,010	220	1,120	10,590
2035	71,100	23,540	14,120	2,820	9,420	670	3,490	14,080

- Notes: (1) Includes Expanded SUDP and U.C. off-campus growth
(2) Assuming 3.02 people per dwelling unit, starting in 1995
(3) Housing figures include number of units needed to maintain a 5% vacancy rate
(4) Assuming 60% of units are single-family and 40% are multi-family, starting in 1995
(5) Assuming 5.0 units/acre for single-family and 14.0 units/acre for multi-family
(6) 1990 figures are total numbers of developed units and acres within the City SUDP



3.10.2 Commercial and Industrial Land Needs

In 1994, the *City of Merced Commercial and Industrial Land Study (1994-2010)* was developed as a background document to the General Plan Update. The study attempted to determine what the City's commercial and industrial land needs would be over a fifteen-year-period. This information has subsequently been modified to reflect revised population and employment projections based on the decision to locate the University of California (UC) campus at Lake Yosemite.

Commercial and industrial uses have been designated on the Land Use Diagram generally based on the estimated range of land needs. However, in some instances (i.e. industrial and office uses), more land has been designated than the estimated "need" because of factors previously discussed in Section 3.5.2 and 3.5.3. It will be important to review and update this data from time to time to make sure that the City is maintaining an adequate supply of commercial and industrial land.

Job Growth

Commercial and industrial land needs are related to the number of jobs the City would need to accommodate during that time. Employment projections for various job sectors were developed by City staff based on data from Merced County employment projections, the *UC San Joaquin Environmental Impact Report*, the 1990 Census, and the *1987 Census of Manufacturing, Retail, Service, and Wholesale Trade*.

The job sectors are grouped into three major categories based on the type of land use designation which would be required:

- *Industrial* (construction, manufacturing, wholesale trade, transportation and public utilities)
- *Retail commercial* (retail);
- *Office commercial* (service, government, and finance/ insurance/real estate).

The number of jobs that will need to be added within each major category for each five-year interval are summarized in *Table 3.5* below.

Table 3.5
City of Merced Employment Projections By Land Use Category
(1990 to 2015 and 2035)

Job Sector/ Zoning Category	1990	1995	2000	2005	2010	2015	2035
Industrial Jobs	8,300	9,620	11,220	13,100	15,460	17,640	28,680
Jobs Added in 5 Years		+1,320	+1,600	+1,880	+2,360	+2,180	+11,040
Total Jobs Added						+9,340	+20,380
Retail Commercial	5,320	6,490	7,910	9,650	11,940	14,160	25,850
Jobs Added in 5 Years		+1,170	+1,420	+1,740	+2,290	+2,220	+11,690
Total Jobs Added						+8,840	+20,530
Office Commercial	3,350	4,110	5,050	6,220	5,380	5,940	21,690
Jobs Added in 5 Years		+760	+940	+1,170	-840	+560	+15,750
Total Jobs Added						+2,590	+18,340
TOTAL JOBS	16,970	20,220	24,180	28,970	32,780	37,740	76,220

Employees Per Acre

In order to translate numbers of jobs into numbers of acres of land needed, it was necessary to determine average employee per acre ratios for Merced. These ratios vary widely region by region and industry by industry due to differences in land and construction costs, the use of automated technology vs. labor-intensive operations, etc. This makes it difficult to determine the proper ratio to use, yet it is critical for deriving a good estimate of land needs. Since the ratio is inversely proportional, choosing a ratio which is too high can lead to underestimating one's land needs while a ratio which is too low can lead to an oversupply of land.

Various sources for determining ratios for Merced were explored, including a sample survey of major employers, other cities' plans, and other regional planning studies. Because of the above factors, it was determined that a range of ratios should be used. The following employee per acre ratios best described the existing and expected future needs of the City:

- a) 5.0 to 15.0 employees per industrial acre;
- b) 5.0 to 15.0 employees per retail commercial acre; and
- c) 8.0 to 15.0 employees per office commercial acre.

Inventory of Developed Land

From the Merced County Association of Governments, an inventory of developed City commercial, industrial, and residential land for 1990 was obtained. **Table 3.6** below summarizes the results.

Acreage Needs

Using the City employment projections and the above employee per acre ratios, the estimated number of acres the City would need to add to the existing inventory of industrial, commercial, and office acreage through the year 2015 was calculated. **Table 3.7** on the next page summarizes the City's range of commercial and industrial land needs, which varies widely depending on the numbers of employees per acre that is assumed. These ranges can be compared with the amount of commercial and industrial land designated on the Land Use Diagram (**Table 3.7**).

As discussed previously in this chapter, it is necessary with some industrial and office development to plan for more than may be needed due to the importance of location, changing demographics, and other factors.

Table 3.6

Developed Land within the City Limits

Zoning of Land	Designated Within City Limits (1990)	Vacant Land (1990)	Total Developed Land (1990)
Industrial	1,750	650	1,100
Retail Commercial	1,050	150	900
Office Commercial	260	40	220

Table 3.7
Commercial and Industrial Land Needs
(1995 to 2015 and 2035)

LAND USE	Acres Needed						
	1990	1995	2000	2005	2010	2015	2035
INDUSTRIAL							
(5.0 Employees/Acre)	1,100	1,370	1,690	2,070	2,540	2,980	5,190
Additional Acres		+270	+320	+380	+470	+440	+2,210
Total Acres Added							+4,090
(10.0 Employees/Acre)	1,100	1,230	1,390	1,580	1,820	2,040	3,140
Additional Acres		+130	+160	+190	+240	+220	+1,100
Total Acres Added							+2,040
(15.0 Employees/Acre)	1,100	1,190	1,300	1,430	1,590	1,740	2,480
Additional Acres		+90	+110	+130	+160	+150	+740
Total Acres Added							+1,380
RANGE (with 10% vacant reserve added)						1,910 to 3,280	2,730 to 5,710
Industrial Land in SUDP*						3,220	
RETAIL COMMERCIAL							
(5.0 Employees/Acre)	900	1,130	1,410	1,760	2,220	2,660	5,000
Additional Acres		+230	+280	+350	+460	+440	+2,340
Total Acres Added							+4,100
(10.0 Employees/Acre)	900	1,020	1,160	1,330	1,560	1,780	2,950
Additional Acres		+120	+140	+170	+230	+220	+1,170
Total Acres Added							+2,050
(15.0 Employees/Acre)	900	980	1,080	1,200	1,350	1,500	2,280
Additional Acres		+80	+100	+120	+150	+150	+780
Total Acres Added							+1,380
RANGE (with 10% vacant reserve added)						1,650 to 2,930	2,510 to 5,500
Retail Commercial Land in SUDP*						1,960	
OFFICE COMMERCIAL							
(8.0 Employees/Acre)	220	320	440	590	480	550	2,520
Additional Acres		+100	+120	+150	-110	+70	+1,970
Total Acres Added							+2,300
(10.0 Employees/Acre)	220	300	390	510	430	490	2,070
Additional Acres		+80	+90	+120	-80	+60	+1,580
Total Acres Added							+1,850
(15.0 Employees/Acre)	220	270	330	410	350	390	1,440
Additional Acres		+50	+60	+80	-60	+40	+1,050
Total Acres Added							+1,220
RANGE (with 10% vacant reserve added)						430 to 610	1,580 to 2,770
Office-Commercial Land in SUDP*						1,400	
GRAND TOTAL						3,990 to 6,820	6,820 to 13,980

*Includes 1/3 (300 acres) of Business Park Total Acreage (900 acres)

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(5/29/97)



Chapter 4

Transportation and Circulation

4.1 INTRODUCTION AND INTENT

The Transportation & Circulation Chapter is a State-required component of the *Merced Vision 2015 General Plan*. Circulation is concerned with the movement of people and goods through and around the City. Transportation is concerned with the means by which these movements are made. This chapter addresses the City's major road system, local street patterns, air facilities, bus and rail transit, and bicycle and pedestrianways. The goal is to identify the most effective ways to plan for circulation while enhancing the community and protecting the environment.

State law recognizes that circulation and land use are especially related and emphasizes a definite correlation between these two required General Plan Elements. California Government Code Section 65302 requires Circulation Elements to identify:

"...The general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the Land Use Element..."

The goals and policies presented here are intended to coordinate transportation/circulation with land use and other pertinent areas of the general plan, while promoting the efficient movement of people, goods and services within the Merced area. The overall public benefit is twofold. The public enjoys a broader choice of realistic options for circulating through the urban area. Secondly, their trips are easier and more efficient.

4.1.1 Coordination of Land Use and Circulation

The *Merced Vision 2015 General Plan* contains land use policies aimed at concentrating higher residential densities and major trip destinations in the vicinity of major roadways and public transit corridors. Such corridors also offer the option of effective transit routes.

Specific goals and policies linking land use to transportation/circulation concerns are found in various locations within this plan, including the Land Use, Urban Expansion, and Urban Design Chapters.

The location and intensity of development has an effect on traffic levels in the surrounding area and on the City as a whole. Transportation engineers have developed several mathematical tools to monitor the relationship between land use and the transportation system. One tool is the traffic forecasting model. This model forecasts traffic volumes and simulates traffic conditions under future land use scenarios based on a) estimates of traffic which will be generated by new development; b) streets the traffic will use; c) and the amount of new traffic the street system can ultimately accommodate.

To evaluate the General Plan Land Use Plan, the City used a traffic model developed by the Merced County Association of Governments (MCAG) for the State Route 99 Merced-Atwater Corridor Study (see Section 4.7.3). The resulting roadway level of service capacity is summarized in Appendix 4.8.4. Major street projects needed to support the planned land uses in the City are summarized in *Table 4.1* and described in more detail in the Appendix (Section 4.8.3). The financing of these needed improvements is discussed in Section 4.7.6. The resulting Circulation Plan (map) is shown in *Figure 4.1*.

4.2 CIRCULATION PLANNING

People continue to drive more. Vehicle miles of travel and the number of automobiles registered per person have continued to increase throughout the State. Shifts in employment patterns and other factors have concentrated auto use during peak daily use periods. This has special implications for an area like

Merced, which has grown from a small, relatively isolated community to a large metropolitan urban area within much less than a lifetime.

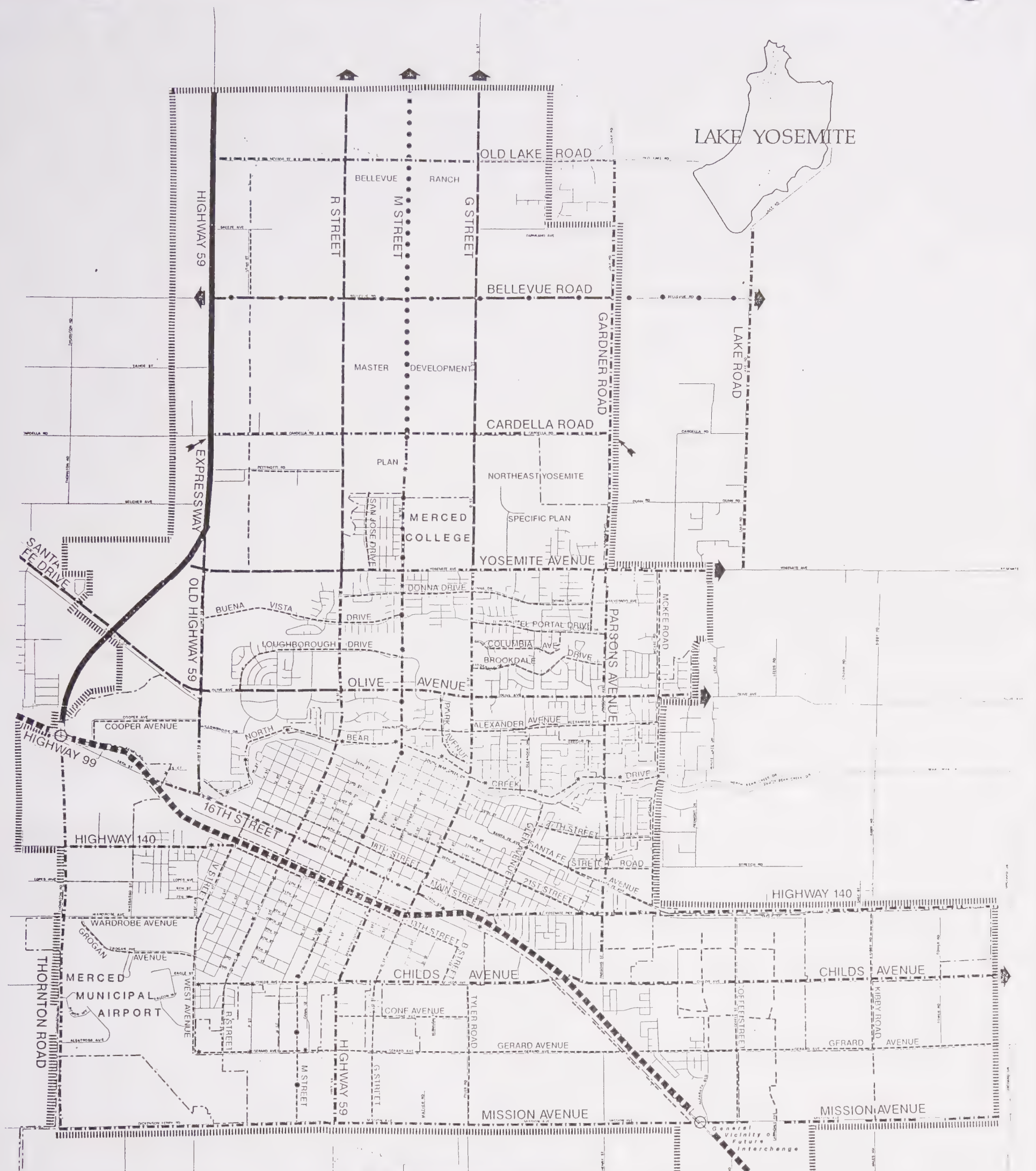
4.2.1 Merced's Historic Circulation Planning

The City of Merced has grown dramatically in the past quarter century. The 1968 General Plan formally re-oriented proposed community growth from east-west to the current north-south orientation. This change was based upon major environmental constraints as well as growth pressures.

In response to growth, changes have occurred in Merced's transportation and circulation planning in the past few years. A major catalyst for these changes was the *Merced 2030: How Should We Grow?* report (1990). (See Section 2.2.2 of the Urban Expansion chapter.)

The *Merced 2030* report described possible growth scenarios for the City over a forty-year period. The "Northern City" scenario, showing growth predominantly to the north of the City towards Lake Yosemite (*Figure 2.1* in the Urban Expansion chapter), was subsequently adopted in 1990.

The *Merced 2030* document also visualized a continuation of the existing system of major north-south roadways into the northern growth areas and an M Street transit corridor. Further reports, such as the "Working Paper on Circulation Options in Future City of Merced" and the *North Merced Conceptual Land Use Plan* (1991), were subsequently prepared and introduced the concept of a Highway 59 expressway.



**MERCED VISION 2015
GENERAL PLAN
CIRCULATION PLAN MAP**

■■■■ FREEWAY
 ——— EXPRESSWAY
 ——— MAJOR ARTERIAL/ARTERIAL
 - - - DIVIDED ARTERIAL/MINOR ARTERIAL
 . . . TRANSITWAY
 ——— COLLECTOR STREET
 - - - LOCAL STREET OR RURAL ROAD
 . . . SPECIAL STREET SECTION

[Hatched Box] Growth Area (SUDF Boundary)
 [Circle with X] Street and Intersection Improvement Locations
 [Arrow] "Standard Arterial and Arterial Intersections" required north of this boundary

NOTE: For areas north of Yosemite Avenue, refer to Figure 4.3 for details.

Adopted - April 7, 1997

Figure 4.1

City of Merced Circulation Plan

Table 4.1

Major Street Improvement Projects

<i>Project #</i>	<i>Project Type</i>	<i>Location</i>
1	New Expressway	From Highway 99 near Cooper Avenue to the intersection of Highway 59 and Yosemite Avenue.
2	Interchange	New Expressway (Project #1) and Santa Fe Drive
3	New Expressway	Parallel to Highway 59 between Yosemite & Old Lake
4	Modify Ramps & Complete 13th/14th 1-Way Couplet	V St. and R St. @ Highway 99
5	Interchange	Highway 99 @ Mission Avenue
6	Upgrade Arterial	Thornton Road from Highway 140 to Mission Avenue
7	Extend Arterial	R St. from Yosemite Avenue to Old Lake Road
8	Extend Transitway	M St. from LeHigh Drive to Old Lake Road
9	Extend Arterial	Cardella Road from Highway 59 to Gardner/Parsons
10	Upgrade Arterial	Parsons/Gardner from Childs Avenue to Old Lake Road
11	Modify Ramps & Complete 13th/14th 1-way Couplet	Highway 99 @ Martin Luther King Jr. Way, G St., & Childs Avenue
12	Upgrade Arterial	Old Lake Road from Highway 59 to Lake Yosemite
13	Upgrade Arterial	Eastern Beltway from Mission Avenue to UC campus
14	Upgrade Arterial	Mission Road from Thornton to Highway 99
15	Upgrade Arterial	Bellevue Road from Lake Road to Highway 59
16	Upgrade Arterial	G St. from Yosemite Avenue to Old Lake Road
17	Upgrade Arterial	Mission Avenue from Highway 99 and Eastern Beltway
18	Interchange	New Highway 59 @ Highway 99
19	Interchange	New Highway 59 @ Yosemite Avenue
20	Upgrade Arterial	East Highway 140 from Parsons Avenue to Tower Road
*21	Upgrade Freeway to 6 to 8 Lanes	Highway 99 Through Merced

*This project (which is the responsibility of the State) is currently under study as part of the Highway 99 Major Investment Study.

NOTE: This table is derived from the Highway 99 Major Investment Study, which is still undergoing modification and review. This table is, therefore, subject to change.

These reports, combined with public input, have helped to shape and modify Merced's circulation system with new features. These features were incorporated into the City's General Plan Transportation and Circulation Element in 1993 and are included in the *Merced Vision 2015 General Plan*. These features (*Figure 4.1*) include:

- a comprehensive system of arterial streets in a one-half to one mile grid system;
- an upgraded Highway 59 to serve as a beltway or "ring-road" to carry cross-town traffic around established portions of the community; and
- a major transit corridor (M Street) designated along the central core of the entire City.

4.2.2 Opportunities and Challenges

The transportation/circulation environment of Merced offers a number of challenges and opportunities. Chief among these will be the location of the University of California (UC) campus northeast of Lake Yosemite. The UC will have major circulation needs, but also offers a significant opportunity for a concentrated transit destination.

The closure of military operations for nearby Castle Air Force Base (CAFB) presents significant economic challenges to the area. Successful conversion to a large civilian job base can also create a major challenge to regional circulation. Again, however, it also offers the opportunity to become a concentrated transit destination.

When considering circulation alternatives, Merced has year-around weather that is quite favorable to non-automobile options. In addition, an enhanced M Street transit corridor, within an urban area that remains strongly oriented north-south, could continue to offer convenient non-automobile access to nearly every major destination in Merced--a truly unique opportunity!

4.2.3 Coordination of Circulation System Planning

Coordination between various transportation planning agencies is an important method of managing traffic growth as well as local and regional traffic problems. It is important that land use and transportation/circulation policies be carefully coordinated on a regional level. This offers the best possible opportunity for achieving consistent comprehensive planning including a well-balanced jobs to housing relationship, which in turn can reduce the length and number of commute trips in the Merced urban area.

Merced County's land use and circulation decisions in the area have significant potential for affecting the City's circulation system. As an example, a large number of subdivision lots/dwellings in a location even miles from Merced City can create peak hour traffic impacts on a particular urban area road if most of the subdivision residents commute to and from work in Merced at similar times.

The Merced County Association of Governments (MCAG) is Merced County's regional (county-wide) planning agency, responsible for coordinating

circulation planning with the State. MCAG, through a governing board composed of representatives from Merced County and each of its incorporated communities, a) assesses regional transportation needs; b) establishes related transportation priorities; c) provides regional transportation planning; and d) administers regional programs.

The California Department of Transportation (Caltrans), in addition to state-wide transportation-related responsibilities, assists and guides delivery of local and regional transportation services, through coordination with MCAG. Caltrans also has direct contact with the City of Merced and other local agencies for local projects that have connection to or impact upon the State highway system. Highways 59, 99 and 140 are important State links in the County's local and regional systems.

It will be extremely important for the City to continue to work closely with Caltrans, the County, and MCAG in the future regarding several important regional circulation issues which are discussed in more detail later in this chapter:

- Access to the University of California campus at Lake Yosemite [Section 4.7.1]
- The design, phasing, financing, and construction of the beltways to the City's west and east [Section 4.7.2]
- Implementation of the Highway 99 Major Investment Study (MIS), involving improvements to Highway 99 and its interchanges through the City [Section 4.7.3]

In addition to these issues, the City will continue to work with Caltrans and MCAG on other regional transportation studies:

- ◆ The Merced County Regional Transportation Plan (RTP)--A 20-year plan, which must be updated every two years, that outlines the regional goals, transportation improvements, and funding sources.
- ◆ The Regional Transportation Improvement Program (RTIP)--A 7-year program of State and Federally funded transportation projects within the region. The RTIP also nominates projects to the California Transportation Commission for funding through the State Transportation Improvement Program (STIP)
- ◆ Project Study Reports (PSR)--These reports need to be completed for projects on the State highway system before they can be funded. PSR's address a project's alignment, scope, preliminary engineering, right-of-way, and costs. Such PSR's will be needed for the Highway 59 Expressway, Thornton Avenue Interchange, and other improvements to Highways 59, 99, and 140 in the Merced area.



4.3 ELEMENTS OF THE CIRCULATION SYSTEM

4.3.1 Regional Circulation System

Current Regional Access

Three routes currently provide regional access for the City of Merced (*Figure 4.2*).

State Route 99 is an important north/south highway connecting the major cities of the Great Central Valley. It is a four to six lane facility extending from Interstate 5 near Bakersfield at its southern end to Interstate 5 near Redding at its northern end. It passes through a number of Valley communities, including Bakersfield, Visalia, Fresno, Merced, Modesto, Lodi, Stockton, and Sacramento. State Route 99 serves as the primary farm-to-market route for the transportation of agricultural products, as a major commuter route within many of the cities it serves, and as a popular route for recreational traffic.

State Route 59 is a north/south facility extending from Route 152 south of El Nido to Snelling north of Merced. It enters Merced from the south via Martin Luther King Jr. Way (South J Street), crosses the City via Route 99, and continues northward on its own Highway 59 corridor. This route primarily serves local and truck traffic.

State Route 140 is an east/west facility connecting I-5 and Yosemite National Park. It is a two-lane road serving local traffic and a high volume of recreational traffic. It enters the City from the west at the intersection of 13th and V Streets, crosses the City via Route 99, and

continues eastward on its Route 140/Yosemite Park Way corridor.

G Street and Santa Fe Drive play more limited regional roles by connecting Merced with the nearby communities of Snelling and Atwater respectively.

Expanded Regional Access

As a part of the *Merced 2030* and *North Merced Conceptual Plan* process, the City adopted a circulation plan of major streets (arterials) and an expressway (Highway 59 by-pass) for prospective growth areas north of the existing community. That system has been subsequently modified and expanded in concept over time as a result of the work of the City/County Liaison Committee, the General Plan Update, and the Highway 99 Corridor Study (by City, County, Atwater, Caltrans, and the Merced County Association of Governments).

The resulting circulation plan also contains a more inclusive future regional loop or beltway system, designed to provide additional options for regional traffic to travel around the fringes rather than through the urban area. This prospective loop system is formed by Highway 59 and Thornton Avenue to the west, Mission Avenue to the south, a route within the Lake/Kibby Road area to the east, and Bellevue Road to the north. An interchange in the vicinity of Thornton Road/Highway 99 is a key western link within this loop. An interchange in the vicinity of Mission Avenue/Highway 99 is a key eastern link within this loop. Such a system has elements which will need to be initiated within the next 20 to 30 years.

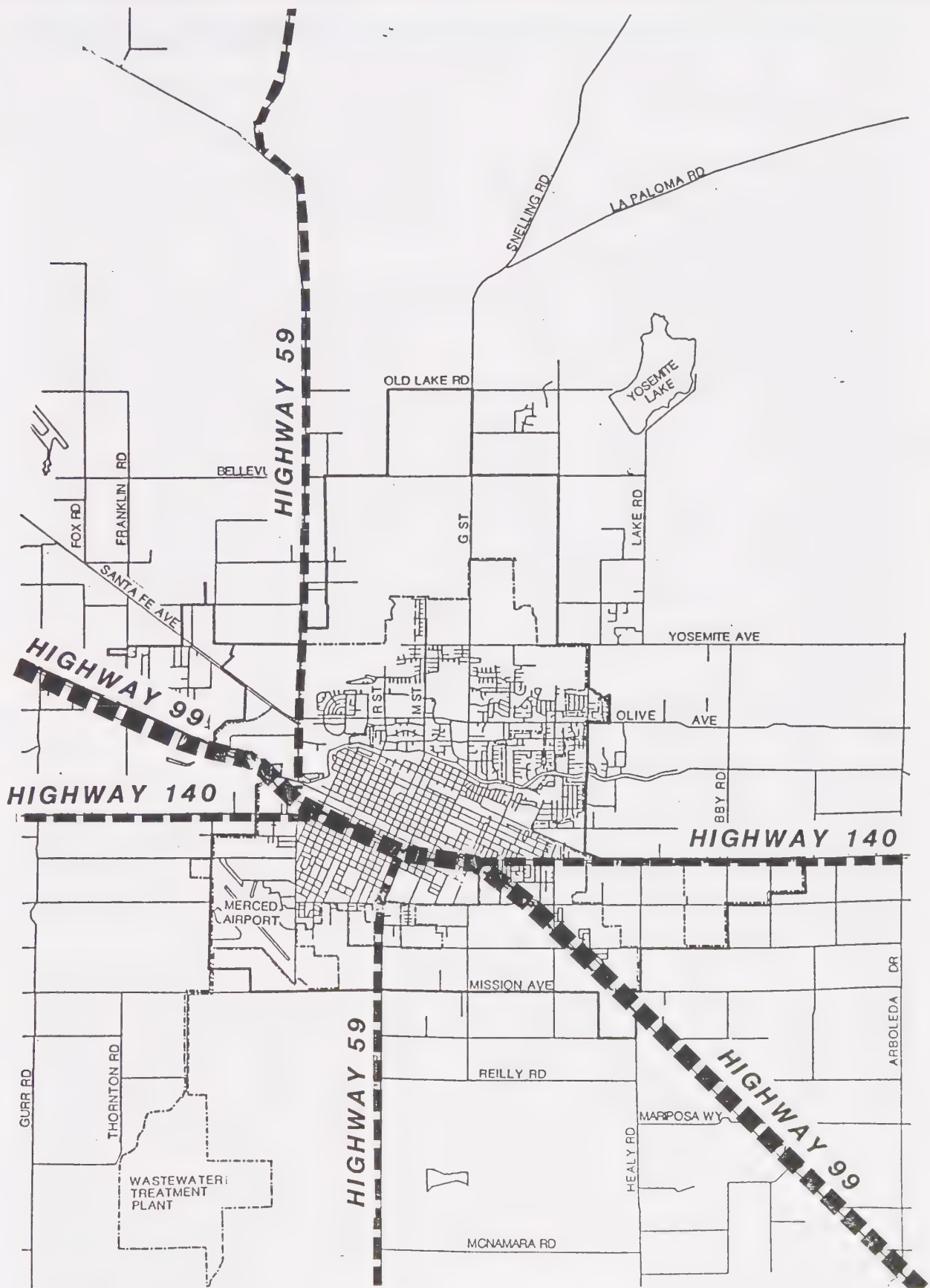
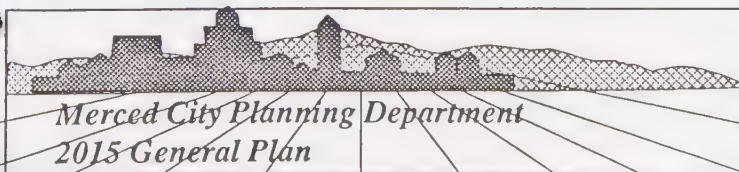


Figure 4.2

Major Regional Routes



4.3.2 Functional Road Classifications and Design Standards

City and regional streets and highways are classified by categories that reflect their importance and function. Freeways are the highest level of roadway, with fully controlled access, high operating speeds and volumes, and highest design standards. Local streets and alleys are the lowest functional classification, with low speeds and volumes and direct access to adjacent property.

The accompanying table (*Table 4.2*) and representative cross-sections which follow summarize the characteristics of roadway categories. (*More detailed design standards and additional cross-sections are described in Section 4.8.1.*) Specific design requirements are found in the City of Merced's Standard Designs of Common Engineering Structures, which are amended on a regular basis.

Roadway characteristics and standards described in the Circulation Element apply to most common situations and generally should be considered as minimums. However, detailed traffic and design studies for specific development projects or roadway improvements may indicate that higher levels of improvements are required or that other standards may be permitted. Like other infrastructure, circulation improvements will be required as development occurs (See Chapter 5, Public Services and Facilities, for related policies regarding the timing of improvements.)

4.3.3 Streets and Highways

Major Road System

The City has had a one-mile grid system of major north-south roadways identified

for many years (Highway 59, R Street, G Street, and Parsons Avenue are all one mile apart). This existing system will be extended and expanded to the north and south to serve Merced's new growth areas.

The circulation system concept for projected new growth areas to the north of Merced provides for one-mile grids formed by major arterial and arterial roadways. The north-south major arterials in the City's primary growth area would distribute traffic throughout the community. East-west arterials would carry traffic to a convenient north-south major arterial or expressway for ultimate distribution to the downtown, other more distant community destinations, or to Highway 99. (*Figure 4.3*).

Rights-of-Way and Access Spacing

The prospective arterial grid system has two basic requirements if it is to be successful --1) adequate right-of-way (ROW) preservation to accommodate the amount of traffic expected from major future growth, and 2) strict access control to maintain efficient movement for this greatly expanded traffic.

In order for the street system to function properly, enough capacity must be built into the roadways to handle the traffic for the next 20 to 40 years and beyond. For that purpose, the rights-of-way (ROW's) for major arterials, such as Bellevue Road, G Street, and R Street, need to be substantial.

Along with the amount of right-of-way, access control greatly affects street capacity. Every street has a maximum traffic-carrying capacity -- the maximum

Table 4.2

City of Merced
Summary of Street and Highway Standards

ROAD CLASSIFICATION	RIGHT- OF- WAY	# OF LANES	DRIVEWAY ACCESS RESTRICTIONS	STREET INTERSECTION SPACING	PARKING
Expressway	150 ft	6-8	Full	1 mile	No
Major Arterial	128 feet	4-6	Full	1/4 - 1/2 mile	No
Arterial	128 feet	4-6	¹ Partial	1/4 - 1/2 mile	No
Divided Arterial	118 feet	4-6	¹ Partial	1/4 - 1/2 mile	No
Minor Arterial	94 feet	2-4	¹ Partial	1/8 - 1/4 mile	Generally Not Permitted
Major Collector	² 68-74 ft	2-4	³ Partial	As needed	³ Permitted in Selected Areas
Collector	68 ft	2	⁴ Partial	As needed	⁴ Permitted in Selected Areas
Local	49-60 ft	2	No	As needed	Permitted
Transitway	⁵ Varies	2-6	⁵ Varies	⁵ Varies	⁵ Varies

¹ Generally no direct access to adjacent property. Right-turn-in/right-turn-out local streets or combined access driveways may be permitted at the City's discretion at 1/8 mile points.

² Less (68 feet) right-of-way (ROW) may be permitted where supported by a traffic analysis to assure that the narrower street would not be overloaded. Analysis would include trip generation and distribution based on existing and future land use and circulation system. Additional width may be necessary at intersections where analysis shows need for turn lane(s).

³ Generally no direct access (fronting lots and residential driveways) allowed.

⁴ Fronting lots would be permitted on Collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions. Driveways or other direct access and parking are to be avoided if feasible within 300 feet of existing signalized intersection or an intersection with realistic prospects for future signalization

⁵ There are different kinds of transitways, depending on their function. Some segments will allow buses only (refer to Bellevue Ranch Master Development Plan) while others will function as normal arterials except they will offer exclusive "High-Occupancy Vehicle" lanes.

NOTE: These are general standards appropriate for most situations. Higher standards may be required or less standards may be permitted based on detailed design studies. Expanded ROW's may be required at intersections to accommodate turn lanes. On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design. A subdivision design deleting on-street bicycle lanes may be permitted if an adequate, convenient Class I bicycle path(s) is available (subject to possible reimbursement and/or maintenance costs for existing system).

Currently adopted standards are contained in the City of Merced Standard Designs of Common Engineering Structures.

number of vehicles that can be carried at a particular speed past any given point.

To maintain this capacity, speed must be maintained. Therefore, unnecessary disruptions to peak hour traffic flow must be avoided. Carefully controlling the number of intersections is the key to maintaining such roadway efficiency.

The intersections that are allowed must also be located at specific distances from each other. This in turn allows future traffic signals to be located at proper distances to provide the most efficient timing possible. The more effective the timing coordination, the more efficient the system (more vehicles carried more quickly over a given period of time).

City traffic studies have indicated that the most efficient spacing for signalized intersections should be a) no less than one-half mile apart on Major Arterials (G and R Streets north of Yosemite Avenue), and b) at least one-quarter mile apart on Arterials (Bellevue Road) and Divided/Minor Arterials (Cardella Road). This spacing maintains an adequate flow of traffic and allows proper synchronization of traffic signals.

Right-turn-in/right-turn-out intersections (regulated by a road median) are allowed at the one-quarter mile points on Major Arterials and at the one-eighth mile points on Arterials and Divided/Minor Arterials. This conceptual arterial grid system was first recommended by the Planning Commission and adopted by the City Council in 1992 as part of the *North Merced Conceptual Plan* (Section 2.2.3).

Designation and function of the following major roadways are to a large degree

based upon the level of required access restrictions.

Highway 59 (Expressway)

- * Anticipated to be the major cross-town traffic carrier for Merced's prospective growth areas to the north in the foreseeable future;
- * East-west minor arterials to feed traffic onto the Expressway at one mile signalized intervals (no other direct access allowed);
- * Major concentration of business parks, commercial centers, industrial activities and other service/employment oriented land uses along this corridor;
- * Adjacent land uses served directly from frontage roads running parallel to the Expressway;
- * By-passes the existing City road system, to provide direct access to Highway 99 and alternative access to the downtown area.

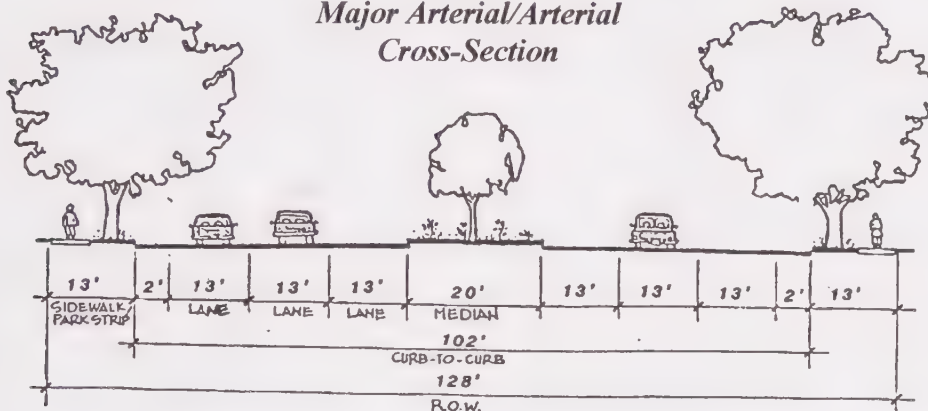
R Street/G Street (Major Arterials)

- * Located parallel to each other at one-mile intervals, in the direction (north-south) that is anticipated over time will carry the longer distance, higher speed cross-town vehicle trips for Merced's prospective growth areas to the north (**Figure 4.3**);
- * Cross-town function anticipated to become more important as the City extends further northward;
- * Access to Major Arterials (**Figure 4.4**) is limited to no more than every quarter mile; signalized (four-way) intersections only allowed at every

mile (at east-west Arterials) and intervening half-mile point at major collectors; (other access points, at intervening quarter miles, limited to

right-turn-in, right-turn-out traffic only).

Figure 4.4
Major Arterial/Arterial
Cross-Section



Bellevue Road and Cardella Road/Old Lake Road (Arterials)

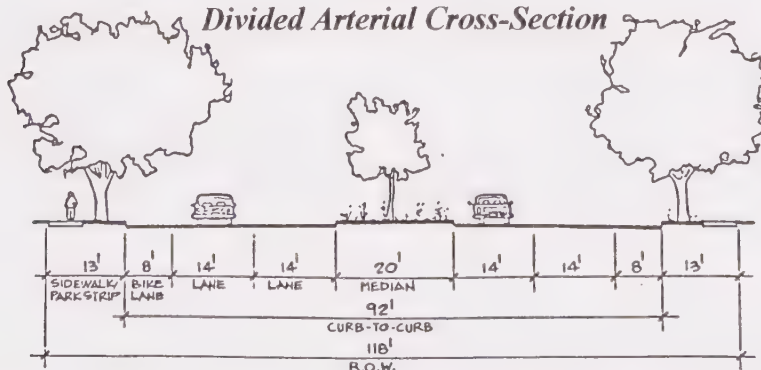
- * Arterials, one mile apart in a parallel (east-west) pattern perpendicular to the major arterials.
- * Anticipated to accommodate more, but shorter, vehicle trips, distributing vehicles to major arterials.
- * Less stringent access restrictions, to accommodate heavier traffic loads for shorter periods of time -- basically, designed to carry traffic to the nearest appropriate major

arterial, expressway or collector, for further trip distribution.

- * Bellevue Road has a larger right-of-way requirement (128 feet, 150 feet at major intersections) because it is designated as a transitway in addition to its designation as an arterial. Cardella Road and Old Lake Road are both designated Divided Arterials (118 feet, 140 feet at intersections) (**Figure 4.5**)

(NOTE: Yosemite Avenue is to function as an Arterial in part but with special designations -- **Figure 4.3.**)

Figure 4.5
Divided Arterial Cross-Section



4.3.4 Public Transportation Services

Transit System

The City of Merced is served by a local public bus system, inter-regional private bus companies, and private taxi-cabs, as well as rail and air passenger services that are both dealt with under separate headings. The public bus system, created in 1974, served the community as the Merced Transit System (MTS)/City Shuttle for more than two decades. Its primary goal over time remained to serve senior citizens, low-income people and the disabled, even as the system expanded. Originally created solely as a demand responsive Dial-A-Ride operation, the service extended as time passed to include a number of fixed routes within the City.

In 1996, this system merged with other transit systems within the County to form “The Bus”-Merced County Transit. The consolidated system includes the City Shuttle plus the former Merced County MARTS and the Los Banos system.

The intent of the combined operations has been to retain as much as possible previous local service options to City transit riders, while reducing overall system costs and enhancing regional transit opportunities for all riders.

Transit routes within the City connect downtown Merced, adjacent neighborhoods, and major trip generators such as the Merced Civic Center, hospitals, shopping areas, and many local schools including Merced College (*Figures 4.6a and 4.6b*). Rural destinations throughout the County are also served. In addition, the service continues to provide

Dial-A-Ride for seniors and disabled individuals.

The City continues to contribute its representative portion of funds necessary for the operation of the expanded, regional system. These funds help to maintain the existing system as well as provide for new equipment such as communications gear, bus shelters, and replacement vehicles.

A public bus system is expected to remain the most cost-effective method of public transportation for the community in the foreseeable future. A key factor is the amount of assistance contributed by other levels of government to help operate and maintain the system.

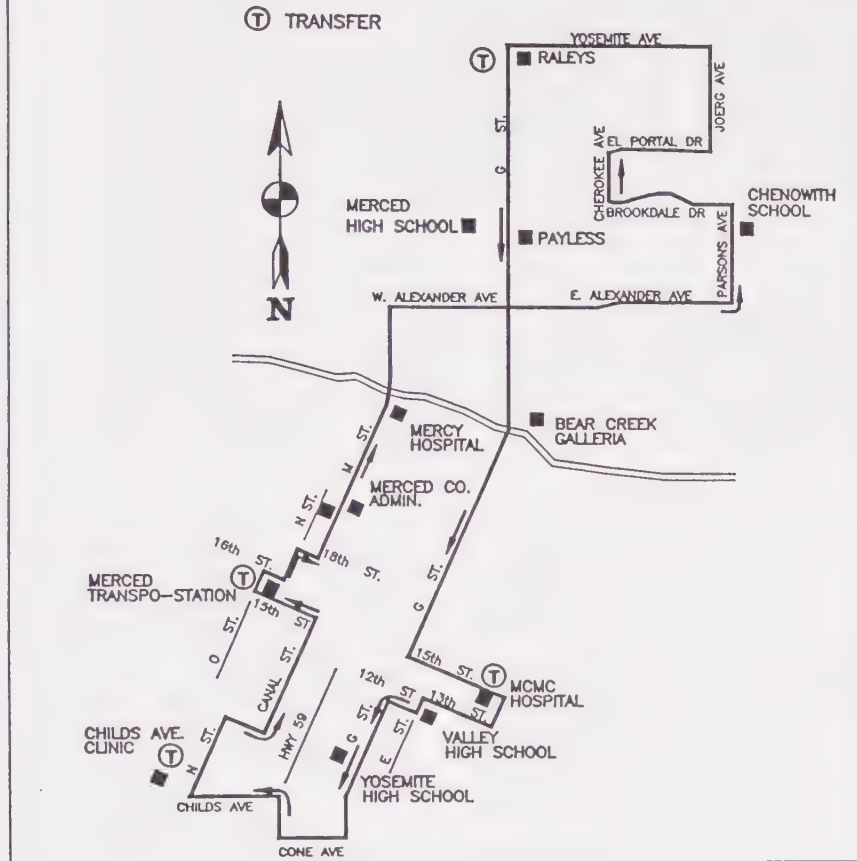
Transitways

The City of Merced has maintained a strong north-south growth pattern for many years, consistent with its proposed expansion areas. This pattern has contributed to a relative clustering of major destinations in proximity to “M” Street (*Figure 4.7*).

This M Street “core” has been formally designated a “Transitway” or “Transit Corridor.” This corridor is a logical location for centralized bus service to run along or closely parallel to “M” Street throughout the entire north-south length of the City.

In this location, public transit would be able to provide convenient access to nearly all major Merced destinations. A pattern of intersecting bus routes could tie the entire community into an efficient public transit system (*Figure 4.8*).

"G" STREET SHUTTLE **CONSOLIDATED FORMAT** **LOOP SERVICE**



Note: Transit Routes Are Subject to Change

M ST. SHUTTLE **Consolidated Format** **Two-way Service**

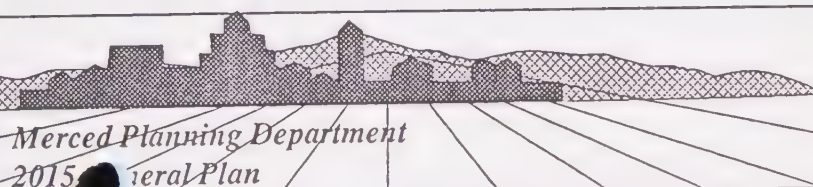
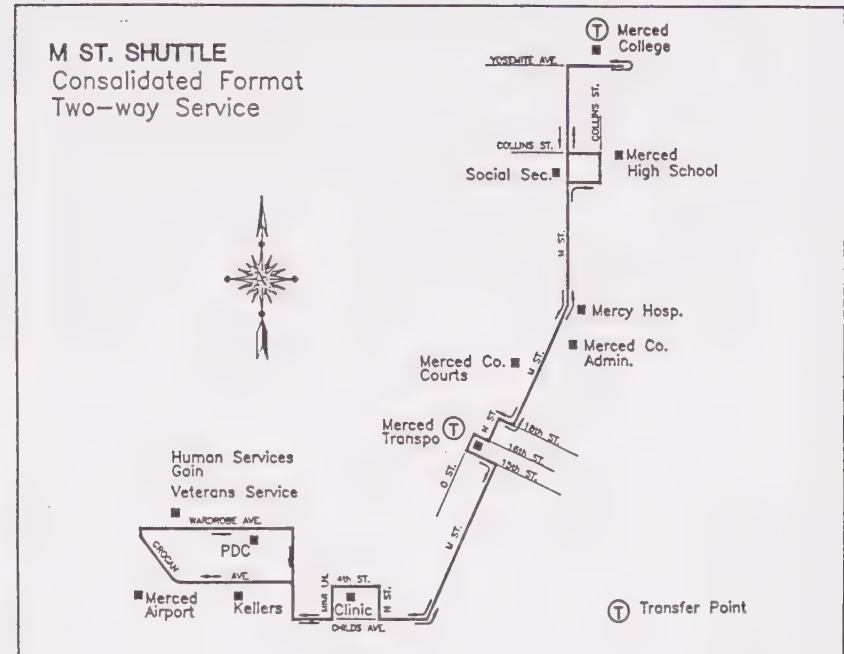
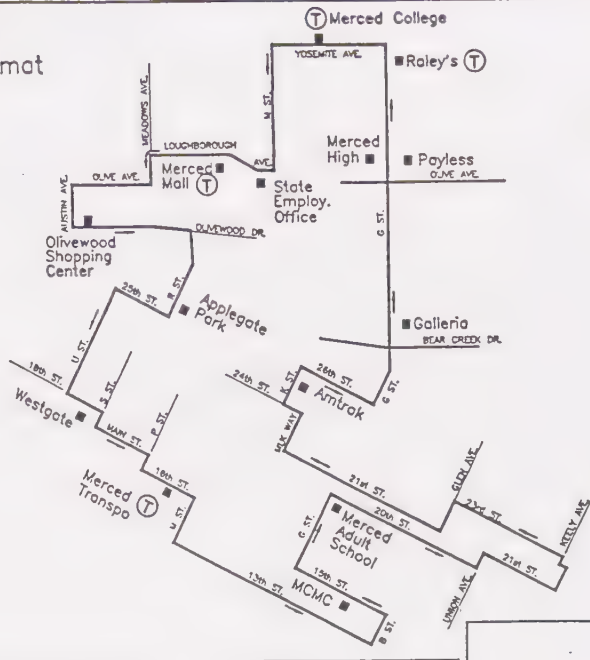


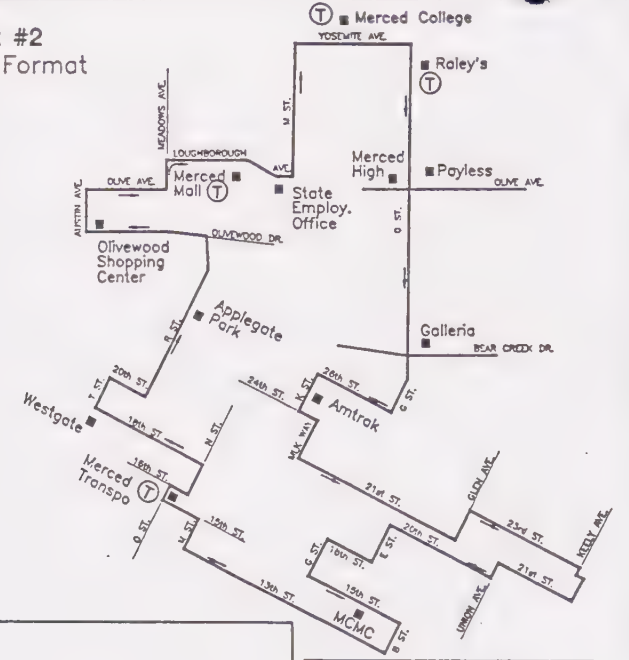
Figure 4.6a

City Transit Routes

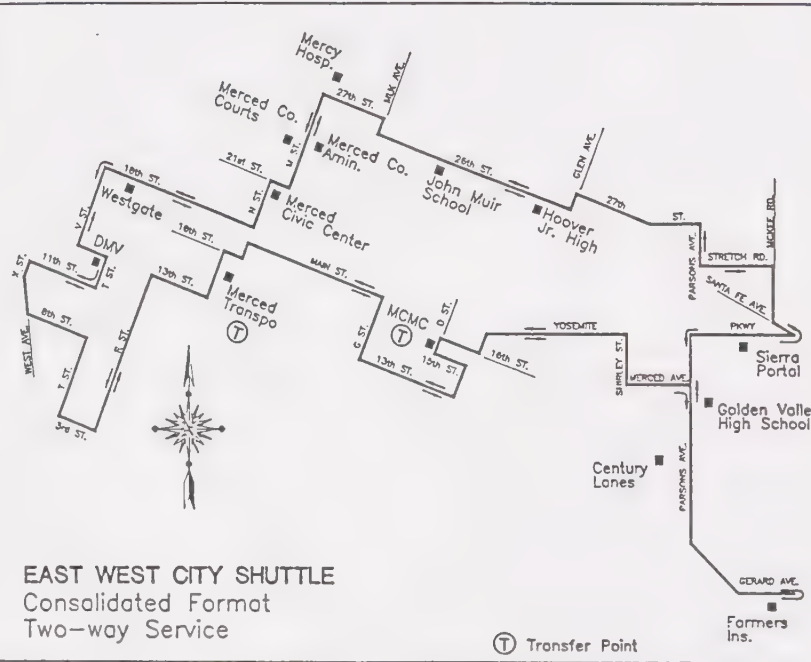
CITY SHOPPER #1 Consolidated Format Loop Service



CITY SHOPPER #2 Consolidated Format Loop Service



*Note: Transit Routes Are Subject to
Change*

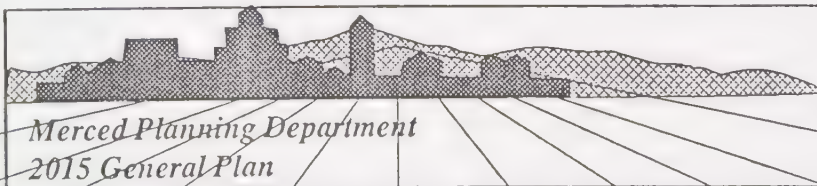


EAST WEST CITY SHUTTLE Consolidated Format Two-way Service

Ⓣ Transfer Point

Figure 4.6b

City Transit Routes



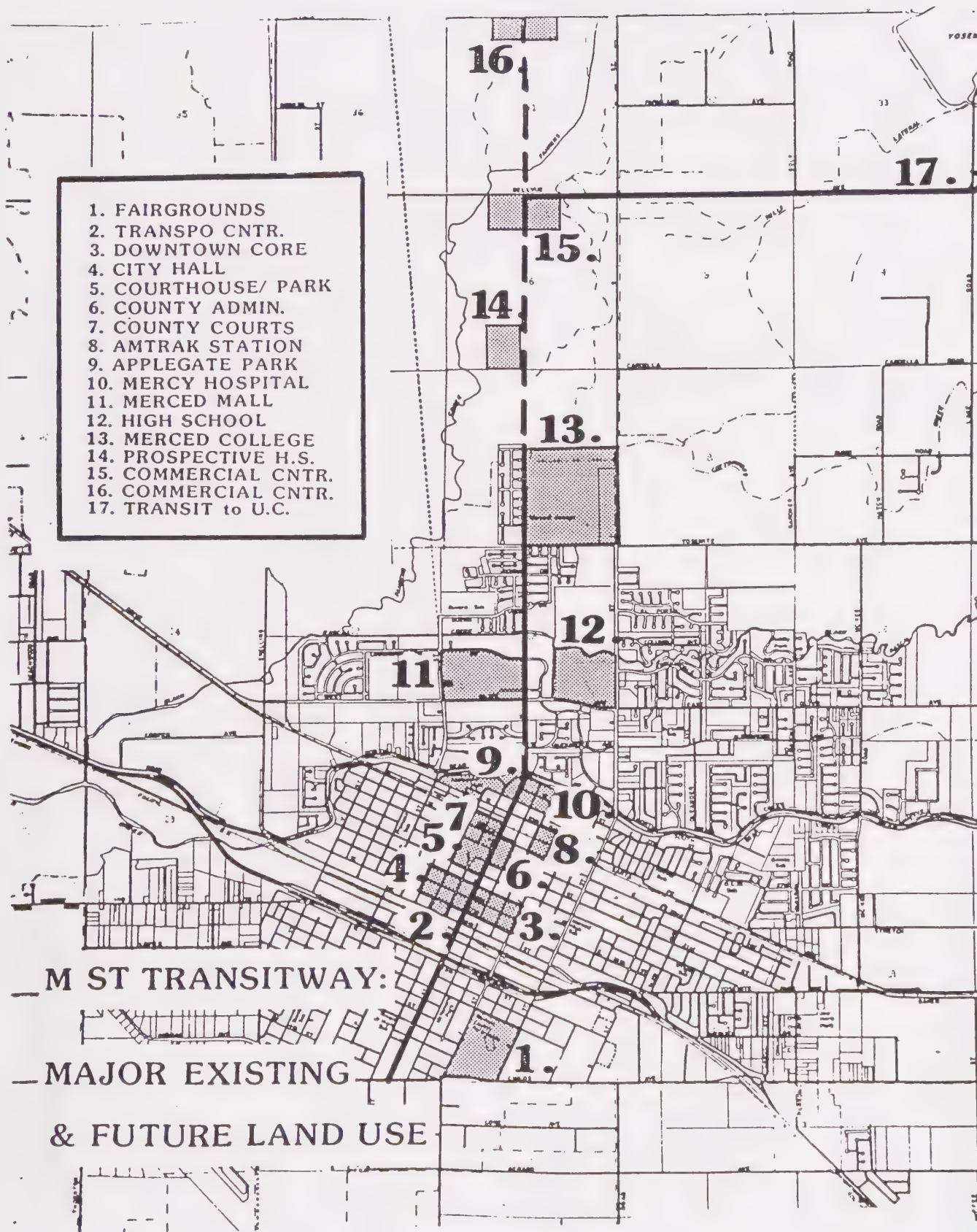
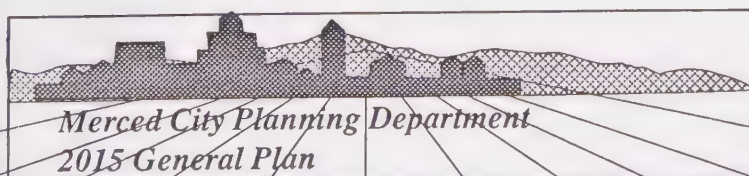
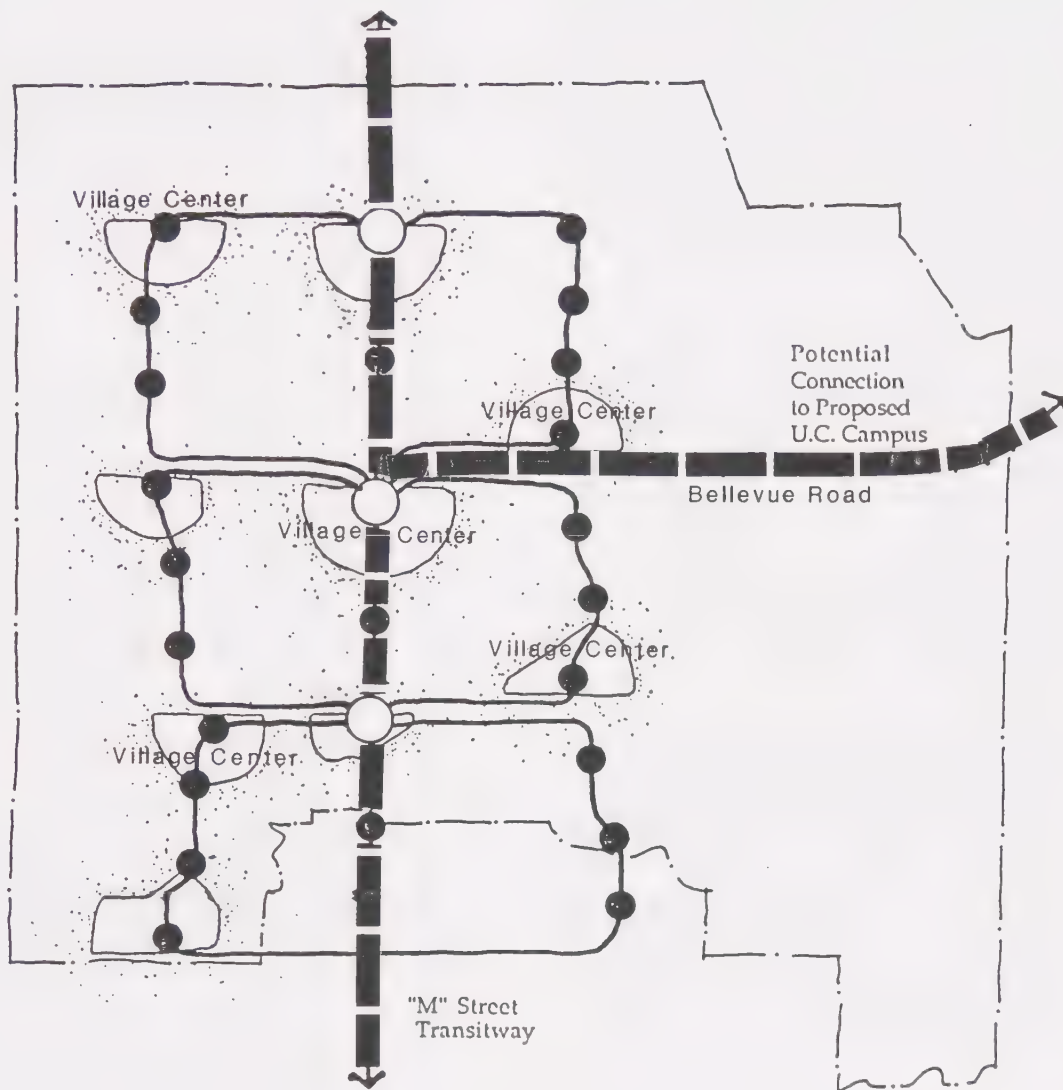


Figure 4.7

*M Street Transitway Corridor
(Major Destinations)*





- Transfer Stop
- Other Transit Stop
- ▬ Trunk Line
- Feeder Bus

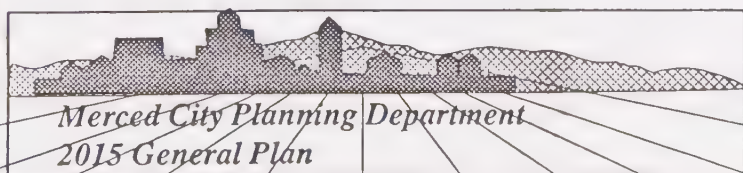


Figure 4.8

**Conceptual North Merced
Transit System**

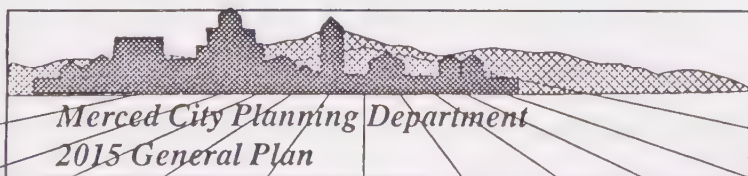
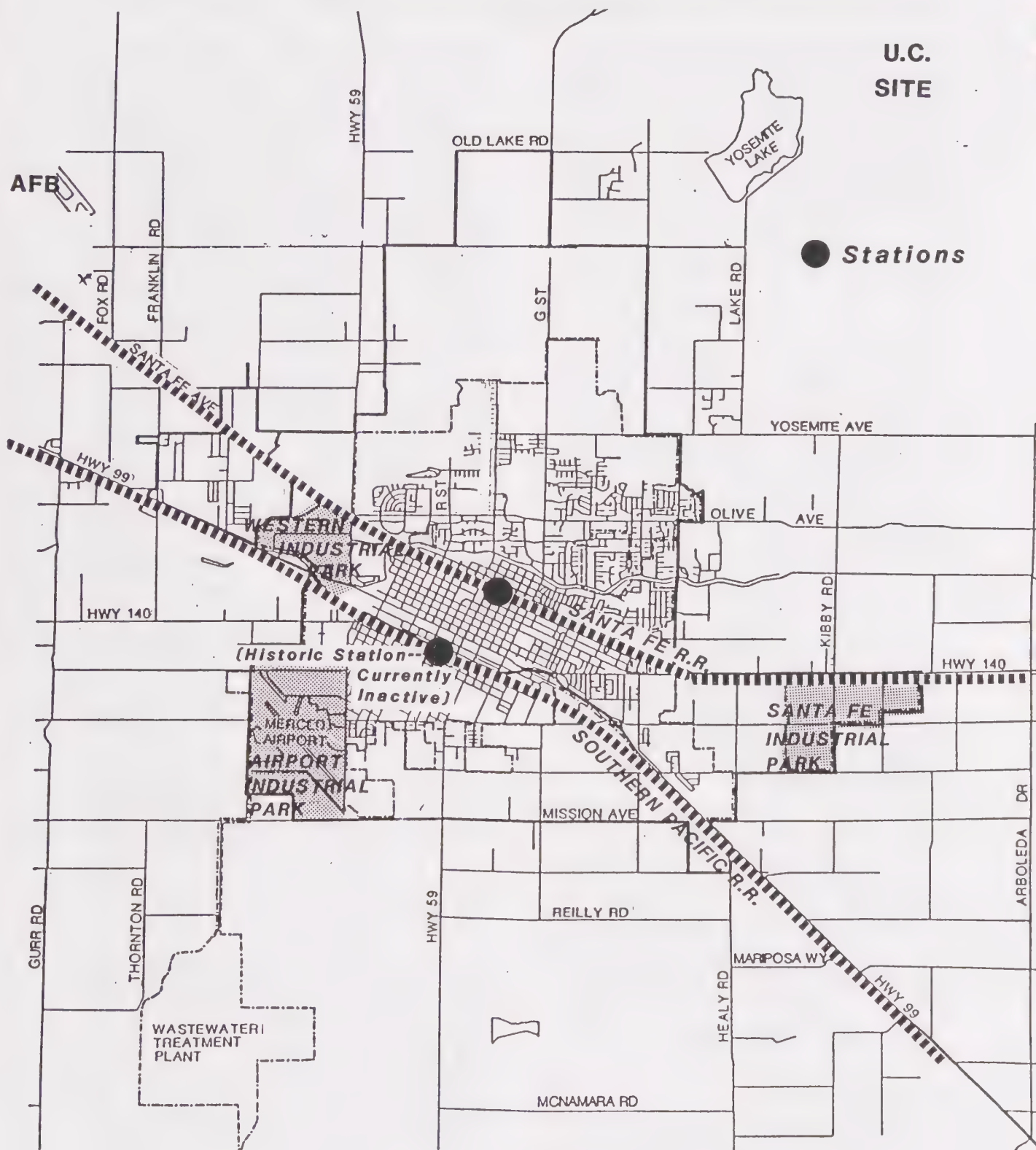


Figure 4.9

Railroads Through Merced

4.3.8 Bicycle/Trail System

Bicycles

In the future, bicycles have the potential to become an important mode of transportation in the community. Merced has both a favorable climate and terrain to encourage the use of bicycles for both recreation and transportation functions. As bicycle use increases, adequate facilities must be provided to furnish direct routes of access between destinations while minimizing conflicts with automobiles.

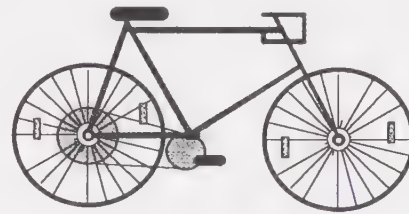
Bicycle routes are categorized by the degree in which they separate bicycle movement from vehicular movement. There are two major types of bikeways: (1) off-street bikeways, and (2) on-street bikeways.

Based on the State Department of Transportation classification system, off-street bikeways should be Class I (Bike Paths or Bike Trails) whenever possible. Class I bike paths provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians, with cross flows by motorists minimized. In Merced Class I bike paths generally take advantage of creekside locations and other non-street facilities, such as canals or railroad corridors. Although the off-street bikeways provide extensive recreational opportunities, another primary focus is on safe and efficient transportation linking major land uses and connecting with on-street bikeways at strategic locations.

On-street bikeways are intended to be Class II (Bike Lanes) whenever possible. Class II bike lanes provide a restricted right-of-way on the street for the

exclusive or semi-exclusive use of bicycles. Through travel by motor vehicles or pedestrians is prohibited, but cross flows by pedestrians and motorists are permitted. The on-street bikeway system may use Class III (Bike Route) designations occasionally where Class II bike lanes are not feasible.

Class III bike routes provide a right-of-way generally designated by signs and shared with pedestrians or motorists. Class III bike routes, to be avoided if possible, are used only to connect or continue Class I or II facilities for short distances. On-street bikeways should utilize existing or proposed major streets that provide the quickest, shortest, and safest route to take for bicyclists.



Bicycle Circulation Plan

The City of Merced has a significant number of existing and proposed Class I off-road bicycle/ pedestrian trail systems (*Figure 4.10*). Much of this system is located along existing waterways (Bear, Black Rascal, Cotton-wood, and Fahrens Creeks).

As proposed, the current Class I system will ultimately be extended to form one complete loop sub-route along Bear/Black Rascal Creeks, between McKee Road and Highway 59. The system will also be extended to complete a larger loop sub-route along Fahrens Creek, to Lake Yosemite and down Lake Road to Black Rascal Creek. Ultimately,



----- Class 1 (Off-Street)

———— Class 2 (On-Street)



Off-Street Bikepath
Study Area



Alignment to be
Determined

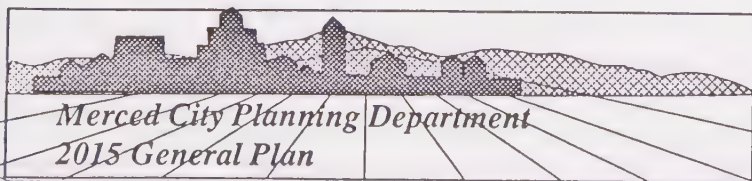


Figure 4.10

Bicycle Transportation Plan

this could allow the system to be extended to provide regional bicycle access to the future UC campus. Class I bikeways will also extend along powerline easements and the old Yosemite Valley Railroad corridor that criss-cross the northern growth area.

Area bicycle planning has to a major degree focused on development of an off-street trail system along the region's existing creeks. Because these creeks are located in central and north Merced, the off-street system has developed there. It is important to develop a plan for extending this system to the rest of the urban area (especially south and southeast Merced).



4.3.9 Pedestrian Circulation

Pedestrianways should provide safe and convenient movement to major pedestrian destinations. The needs of school children and the special problems of the disabled are of special importance. Care must be taken where development is phased or non-contiguous to provide adequate and safe pedestrian facilities at all times.

Both sidewalks and separate paths can be provided for pedestrian movement. As with bicycles, separate public easements or rights-of-way provide unique opportunities for pedestrian circulation.

Indirect street systems, found in modern subdivisions, are often inconvenient to the pedestrian. The planning of residential areas needs to recognize pedestrian movements, whether to

schools, parks, shopping, or public transit routes. A system of pedestrianways can also serve a secondary use as bicycle access to local streets and other portions of the bicycle path system.

4.3.10 Air Service

Merced Municipal Airport

Merced Municipal Airport is a publicly owned, public use facility. It is a basic transport airport, providing commercial air service and freight air cargo service. Runway length is approximately 5,900 feet, capable of handling jet aircraft. Available hangar space in 1995 was approximately 57,000 square feet.

In 1995, Merced was receiving daily passenger air service from United Express, a smaller unit of United Airlines. This service, the only air carrier service in Merced County, provides weekday and weekend flights to San Francisco. The airport is the only "regionally significant" airport in the County according to criteria used by the Civil Aeronautics Board.



The United Express service is subsidized by the federal government under the Essential Air Service (EAS) Program. EAS was designed to provide smaller communities access to the national air transportation system by subsidizing airline service should it be necessary.

EAS was established after air service was deregulated in the late 1970's. It was originally approved through 1988, but has subsequently been extended for 10 years. At this time it is not known whether there will be further extensions. If not, Merced would need to obtain alternative funding or seek other solutions in order to maintain this air service. The City's current intent is to keep the municipal airport operating.

Castle Airport Aviation and Development Center

The closure of Castle Air Force Base (CAFB) was completed in 1995. The closure was projected to impact the surrounding economy, including reductions in population and employment in Merced. There is also a potential future impact to operations at Merced airport through reuse activities.

The Joint Powers Authority (JPA) was formed by surrounding jurisdictions (Merced, Atwater, Merced County) to explore potential reuses for the renamed Castle Airport Aviation and Development Center. Based upon the aviation facilities available at Castle, many local officials have been confident that a diversified general aviation facility could be in operation in the foreseeable future.

A diversified general aviation facility at Castle would likely attract both private aircraft and commercial passenger services from Merced. This could influence the demand for the Merced Airport in the future. Alternative uses for the Merced Airport (industrial development, limited aviation uses, etc.) could then be considered.

4.4 CIRCULATION SYSTEM IMPROVEMENT ISSUES

Ultimate buildout of the City's proposed Sphere of Influence area is anticipated to require significant public improvements to the circulation system (shown graphically on *Figure 4.11* and described in Appendix 4.8.3). Based upon traffic projections, the system will need two additional Highway 99 interchanges, a transitway(s), approximately 60 miles of new or improved major streets, separated-grade railroad crossings, and numerous new bridges and traffic signals.

With such improvements, the circulation system would be expected to maintain satisfactory movement in and around the community. Overall, levels of service (LOS) for major streets would not fall below standards currently expected by the public. Limited areas (downtown, etc.), however, may experience significant traffic congestion at peak hours.

4.4.1 Level of Service (LOS)

Level-of-Service (LOS) standards is one method for expressing how well traffic is moving on a road or through an intersection in relation to the capacity of that road or intersection. LOS ranks the quality of traffic movement on a scale of A through F.

Often LOS is used to specifically describe "worst-case" situations, or traffic flow during "peak-hour" times. Typically, as in Merced, there are three peak-hour periods (when the largest number of vehicles are on the road together) during the typical weekday, centered generally around 8:00 a.m., noon, and 5:00 p.m.

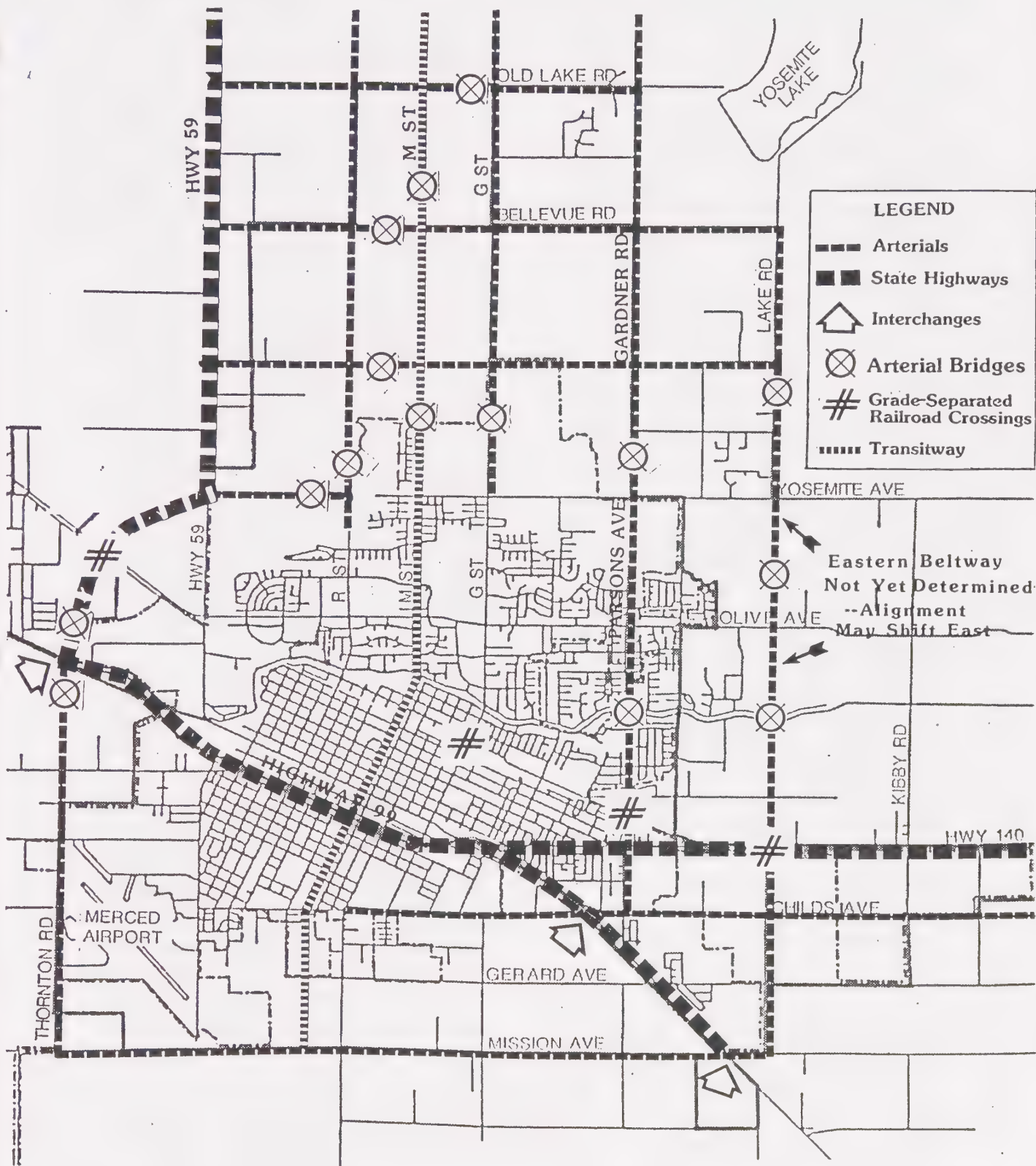
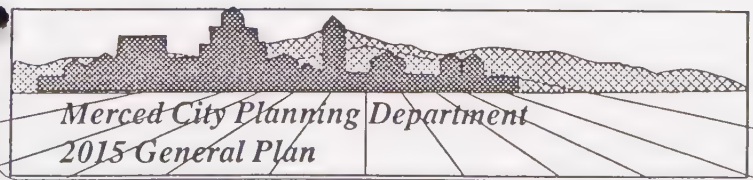


Figure 4.11

Anticipated Circulation System Improvements



For use in determining LOS, traffic conditions are evaluated by numerous factors, including vehicle speed, travel time (how long it takes a vehicle to get a specified distance), volume and capacity (how many vehicles are on the road compared to how many vehicles the road can carry before efficient traffic flow begins to suffer), freedom to maneuver, traffic interruptions, and safety. Level of Service “A” represents free-flow conditions. Level of Service “F” reflects traffic jams -- that is, more traffic than the street has room for. These conditions are described in *Figures 4.12a* and *4.12b*.

Level of Service standards can be used to help analyze the potential impacts of prospective land use changes and growth to routes and intersections. When service drops below a particular level, a road segment or intersection can be considered deficient and in need of capacity improvements.

Level of Service is influenced by a number of factors. These include existence of on-street (curbside) parking, frequency and spacing of traffic signals, number and frequency of intersecting side streets and curb cuts, level of pedestrian activity, and existence of left-turn pockets and right-turn lanes.

Ironically LOS “A,” or the “best” condition in terms of freedom for an individual vehicle to move on a particular road segment, may not be best from other perspectives. LOS A indicates that a road has very little traffic on it in relation to how much traffic it could carry. Such a situation is appealing for a local neighborhood street. It could be very inefficient for a major street,

though, indicating that the public is not getting full value from that roadway.

At the other extreme, Level “F” means that the cost per vehicle using the roadway has been reduced. However, other costs to the drivers, such as large time delays, number of accidents, maintenance problems, air pollution levels, etc., all continue to increase.

The preferred LOS levels are typically “C” and “D,” particularly for larger roads and major intersections. With LOS C the road provides stable operation but is still underutilized to some degree. LOS D represents a fine balance between the relatively large number of vehicles served and the generally acceptable level of service provided.

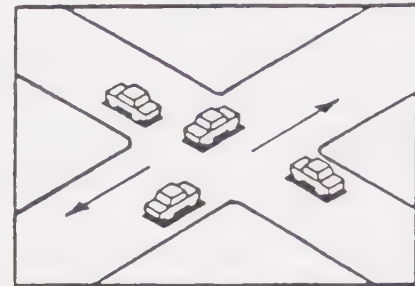
It is the intent of the City’s standards and policies for new and upgraded intersections and road segments to be designed and built to function at LOS D (“tolerable delay”), at least, during peak traffic periods.

Maintaining a Level of Service D at existing intersections is not always feasible, appropriate, or necessary, however. People may expect and tolerate varying levels of congestion depending on location (e.g. central Merced) and time of day. Heavier traffic can also be a reason to encourage greater pedestrian activity and heavier transit use in such areas. Other factors may make higher levels of service infeasible. In central Merced, for example, widening existing streets could create great disruption to stable, older neighborhoods. In these areas, “significant delays” (LOS E) or even LOS F may have to be acceptable at peak hours. Transportation System

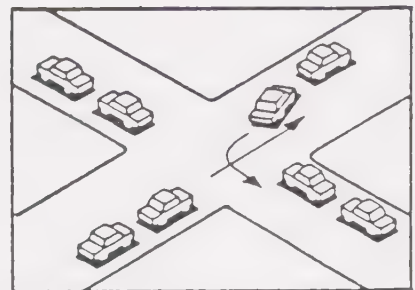
Level of Service Descriptions

Service Level Category	Descriptions of Traffic Conditions
	Signalized Intersections (Average Length of Wait ¹)
Free Flowing (LOS A)	Most vehicles do not have to stop. On the average, each driver waits less than 5 seconds to get through intersection.
Minimal Delays (LOS B)	Some vehicles have to stop, although waits are not bothersome. Average wait at intersections is 5 to 15 seconds.
Acceptable Delays (LOS C)	Significant number of vehicles have to stop because of steady, high traffic volume. Still, many pass through without stopping. On the average, vehicles have to wait 15 to 25 seconds to get through intersection. <i>Typical LOS at major intersections during mid-day.</i>
Tolerable Delays (LOS D)	Many vehicles have to stop. Drivers are aware of heavier traffic. Cars may have to wait through more than one red light. Queues begin to form, often on more than one approach. On the average, vehicle wait is 25 to 40 seconds. <i>Common afternoon peak hour LOS at many intersections.</i>
Significant Delays (LOS E)	Cars may have to wait through more than one red light. Long queues form, sometimes on several approaches. Average waits of 40 to 60 seconds. <i>Apparent at major arterial intersections at peak hour.</i>
Excessive Delays (LOS F)	<i>Intersection is jammed.</i> Many cars have to wait through more than one red light, or more than 60 seconds. Traffic may back up into "up-stream" intersections. Generally caused by obstruction or irregular occurrence (e.g., signal preemption for a train). This condition often viewed as "gridlock."

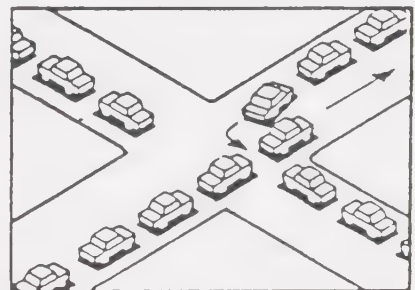
¹ "Average wait" is a measure of traffic conditions at intersections. It is an estimate of the average delay for all vehicles entering the intersection in a defined period of time, for example, the evening peak hour. It is expressed as a range rather than a single value. Some drivers will actually wait more or less time than indicated by the range.



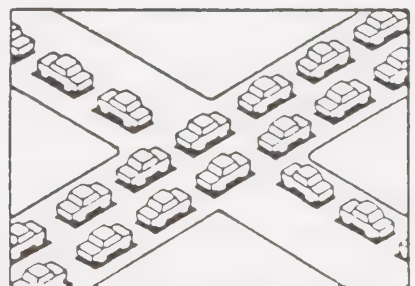
LOS 'A'



LOS 'C'



LOS 'D'



LOS 'F'

SOURCE: Highway Capacity Manual and 1992 Mountain View General Plan

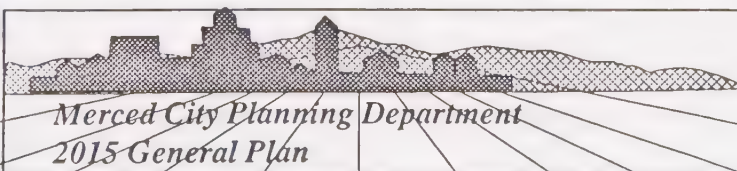
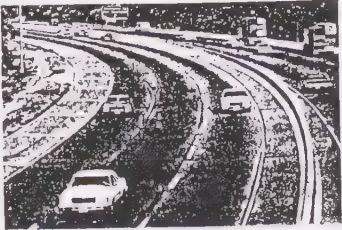



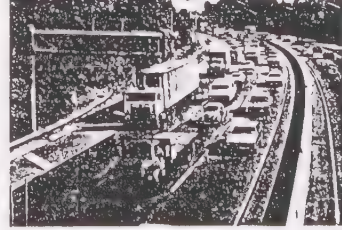



Figure 4.12a

Level of Service--Intersections

Level of Service Descriptions

Service Level Category	Descriptions of Traffic Conditions		
	Arterials (Average Speed ²)		
Free Flowing (LOS A)	Vehicles can maneuver completely unimpeded and without restrictions on speed caused by other cars and delays at intersections.		LOS A
Minimal Delays (LOS B)	Drivers feel somewhat restricted within traffic stream and slightly delayed at intersections. Average speed is about 70 percent of free flow.		LOS B
Acceptable Delays (LOS C)	Traffic still stable, but drivers may feel restricted in their ability to change lanes. They begin to feel the tension of traffic. Delays at intersections contribute to lower average speeds—about 50 percent of free flow.		LOS C
Tolerable Delays (LOS D)	High traffic volumes and delays at intersections reduce average travel speeds to 40 percent of free flow. Drivers aware of slower pace of traffic.		LOS D
Significant Delays (LOS E)	High traffic volume and many signalized intersections with long queues reduce average travel speed to one-third of free flow.		LOS E
Excessive Delays (LOS F)	Travel is "stop and go"—one-third or one-fourth of free flow. Usually caused by a "down-stream" obstruction, such as lanes reduced from 4 to 3, or a stalled car, or signal preemption for a train.		LOS F
² "Average speed" is a measure of traffic conditions on arterials. "Average speed" is based on the total time it takes to travel a certain distance, including the time spent waiting at intersections. It is determined more by traffic volume and conditions at intersections, than by the legal speed limit.			

SOURCE: Highway Capacity Manual and 1992 Mountain View General Plan

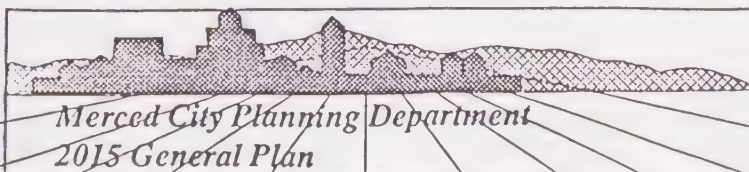


Figure 4.12b

Level of Service--Arterials

Management (TSM) strategies discussed in Section 4.5 can be used to alleviate some of this congestion.

The projected LOS levels for Merced's major streets can be found in Section 4.8.4.

4.4.2 Parsons Avenue

The issue of the completion of Parsons Avenue as a major roadway within the City's north-south grid system reflects many of the difficulties of planning over time. Parsons has been shown as a major road on the City's General Plan maps since 1959. In the City's one-mile grid of major north-south streets, Parsons is the next eastward link (Highway 59 to the west; "R" Street one mile east of 59; "G" Street one mile east of R Street; Parsons Avenue one mile east of "G" Street).

Much of the City's growth over the past several decades has taken place to the north, above Bear Creek, and to the east, beyond "G" Street. As a result, a significant portion of the community's population now lies northeast of these two boundaries.

Because no major north-south routes are completed east of "G" Street, however, the City's north-south circulation system has become increasingly unbalanced. Expanding traffic from Merced's newer, northern growth areas increasingly impacts the existing north-south grid system. Much of this traffic travels south towards downtown, other older parts of the community, or to the region's highway network (Highways 99, 140 and South 59) during morning peak hour.

At the same time, traffic from East Merced traveling towards the same destinations has limited options. Constraints funnel much of this traffic to a limited number of east-west routes such as East 26th Street, North Bear Creek Drive, East Alexander and East Olive Avenue, then westward to already heavily burdened north-south routes at "G" Street or beyond.

Impacts on all of these existing roadways will continue to intensify as growth continues. A completed Parsons Avenue would be a major step in distributing traffic impacts more fairly throughout the community, and it remains a significant link in the City's overall circulation plan.

Figure 4.13 illustrates segments of Parsons Avenue that remain unconstructed. The two facilities that remain the largest impediments to completion of Parsons, due to cost, are a bridge across Bear Creek and a crossing of the Santa Fe Railroad tracks. [An at-grade crossing would be significantly less costly, but a separated-grade (underpass or overpass) crossing is a much more likely California Public Utilities Commission (PUC) requirement.]

The community has periodically evaluated possible options to the prospective Parsons Avenue project over past decades. A workable alternative(s) to Parsons that would serve the community with reasonably equitable circulation capability within realistic costs has not been identified. Therefore, completion of this corridor remains a high priority.

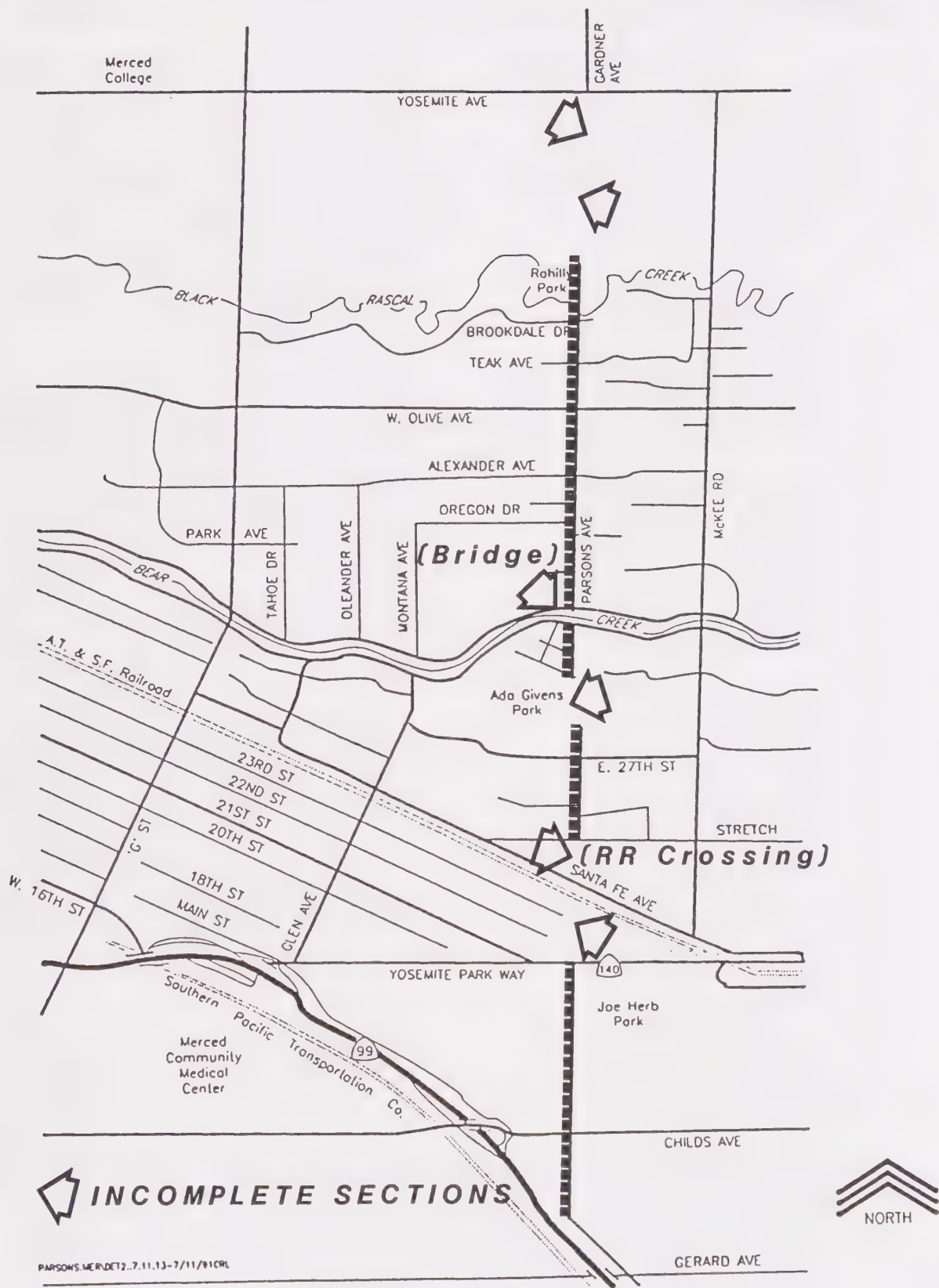


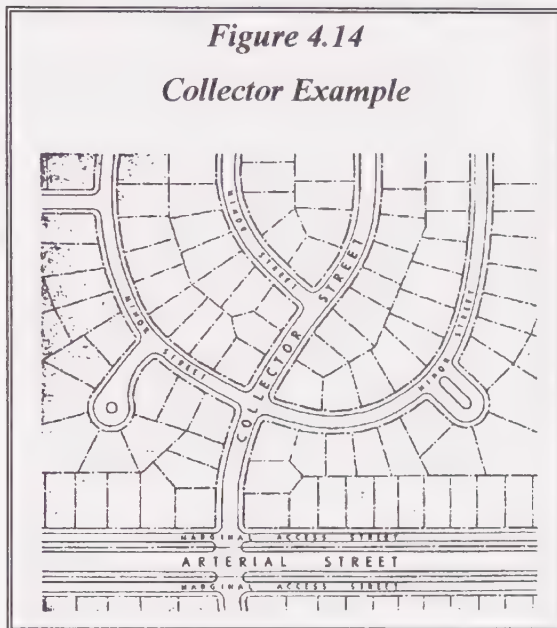
Figure 4.13

Parsons Avenue Corridor Project



4.4.3 Collectors

“Collector” is a term describing, typically, a residential street that collects traffic from, and distributes traffic to, the local streets of a neighborhood. On a map a simple collector system might look like a group of smaller twigs connecting into a larger tree limb (the collector) -- *Figure 4.14*.



Ideally a residential collector serves as a simple conduit for local traffic. The collector carries such traffic to nearby attractors such as a shopping center, school, or community facility, or to a major roadway (minor arterial, or larger street) for a longer trip within the City or beyond.

There are two major, and often conflicting, functions for residential collectors. This conflict creates a delicate balance. On the one hand, it is a residential street and as such is expected to fit into the quiet, safe setting of the surrounding neighborhood. On the other hand, a collector designed to efficiently

fulfill its function of carrying traffic through and out of the area has potential for factors such as noise and speed which negatively impact the residential setting.

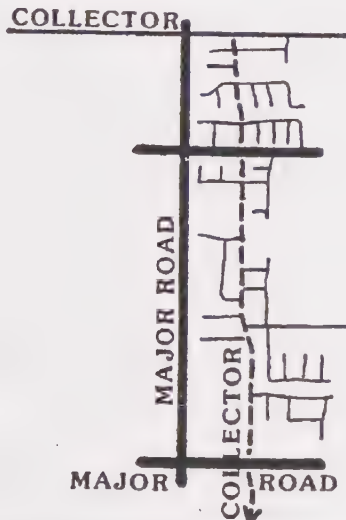
When neighborhoods become concerned about the impacts of a collector, they can create a strong lobby for imposing measures that will affect traffic flow, such as installation of stop signs. In some cases these may be generally effective within the larger street system. In other instances, such measures may simply force some traffic to find another route, which merely moves undesirable impacts to another neighborhood.

Growth and change can increase the role of existing collectors beyond their expected level of operation. These factors may also force the role of collector onto local streets not really designed as collectors. There are numerous examples of streets in existing residential areas of Merced (21st Street, Donna Drive, Loughborough Drive, etc.) that have been called upon to serve such expanded roles.

Such streets often share similar characteristics, including substantial length, significant traffic destinations such as a major land use(s) or major roadway (often at both ends), and unimpeded access to such major destinations (a “straight-shot” traffic corridor with no real inconveniences to the motorists involved). These circumstances (*Figure 4.15*) tend to make it convenient for traffic from beyond the adjoining residential areas to use these streets as “through-ways” to get from one major destination to another, without the need of using an arterial or other major traffic carrier.

Figure 4.15

***Collector Acting as a “Through-way”
for Arterial Traffic***



The “one-mile grid of arterials” that has been designed to border Villages in the City’s new growth areas also contains a network of Village or Neighborhood Collectors internal to these grids (**Figure 4.35** in Section 4.8.1). These Collector sub-systems illustrate several basic concepts designed to reduce past concerns relating to collectors:

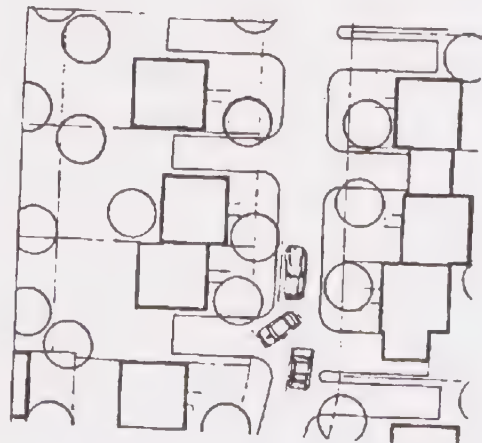
- 1) Collector access points onto the arterials bordering the individual neighborhoods are located at very specific distances from each other and from nearby arterials (in order to allow the arterials to function as effectively as possible while allowing collector traffic to exit from the neighborhood as efficiently as possible);
- 2) Collectors are not intended to offer “straight-shot” corridors through the neighborhood (a common way to

reduce through traffic from outside the area is the use of road “off-sets”). Neighborhood residents could be expected to continue to use this internal system as the most convenient way of getting to local destinations, while outsiders simply driving through the area could be expected to find them more difficult to use.

Other factors also contribute to neighborhood conflict with collectors. One involves subdivision design that forces local residents to back their automobiles out of residential driveways onto a collector (**Figure 4.16**). This disrupts traffic flow and increases the opportunity for accidents. Another factor is the conflict with parked cars. Parked vehicles have a natural tendency to slow collector traffic but also decrease visibility. Each creates an impact upon local residents and over time can create increasing tensions regarding collectors.

Figure 4.16

Conflicts with Backing onto Collectors



While there are residential driveway design options to avoid automobiles backing into traffic (circular driveways, hammerhead driveways, etc.), smaller lot sizes generally do not have sufficient room for such alternatives. A workable option, which has the added advantage of reducing the need for on-street parking, is to avoid fronting lots on collectors. On the other hand, such residential subdivision designs that orient lots only to side streets create limits on subdivision design flexibility which can reduce the overall number of lots obtained, while increasing the amount of streets.

An acceptable compromise is to avoid fronting residential lots on streets deemed “Major” Residential Collectors (defined in Section 4.8.1). This would eliminate driveway and parked car conflicts with collector traffic on the most significant residential collectors.

Experience indicates that an important factor in neighborhood security can be the ability of neighbors to maintain surveillance on local activities. Design features, such as open-end cul-de-sacs which have openings in the walls to allow visual and pedestrian access to the Major Collectors, allow residents to observe local activities on these streets.

Other residential streets, although not major collectors, still collect/distribute traffic in a more limited fashion. A likely point of conflict on such streets is at its intersection with an arterial. A requirement preventing fronting lots in the vicinity of these main access points could reduce traffic conflicts for the entire neighborhood.

4.4.4 Bear Creek Bridges

Currently there are five bridges for local traffic over Bear Creek in the Merced urban area: 16th, R, M, and G Streets, and McKee Road (*Figure 4.17*). All but 16th Street serve north-south bound traffic and are critical circulation points in a community that is planning for extended north-south growth. As traffic increases substantially with future growth, the bridge locations will become increasing bottlenecks. Because of significant size and cost constraints, expansion of these bridges could be difficult.

Completion of the Parsons corridor, which includes an additional crossing at Bear Creek, would assist in distributing cross-town traffic more evenly across Bear Creek and reduce congestion throughout the urban area (see Section 4.4.2).

Another prospective creek crossing on the 1959 General Plan was at the western end of the downtown area. This crossing as shown could have connected a Main Street extension to the area of Merced generally bounded (and isolated) by Highway 59 on the west, the Santa Fe Railroad tracks on the north, and Bear Creek to the east and south.

In recent years this idea has been revisited and will receive further consideration as part of the circulation study for the “Willowbrook” area between Bear Creek and Highway 59, west of R Street (see Section 4.7.4).

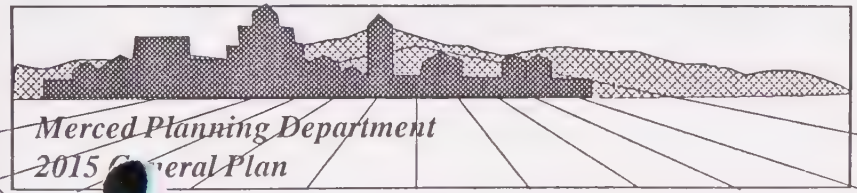
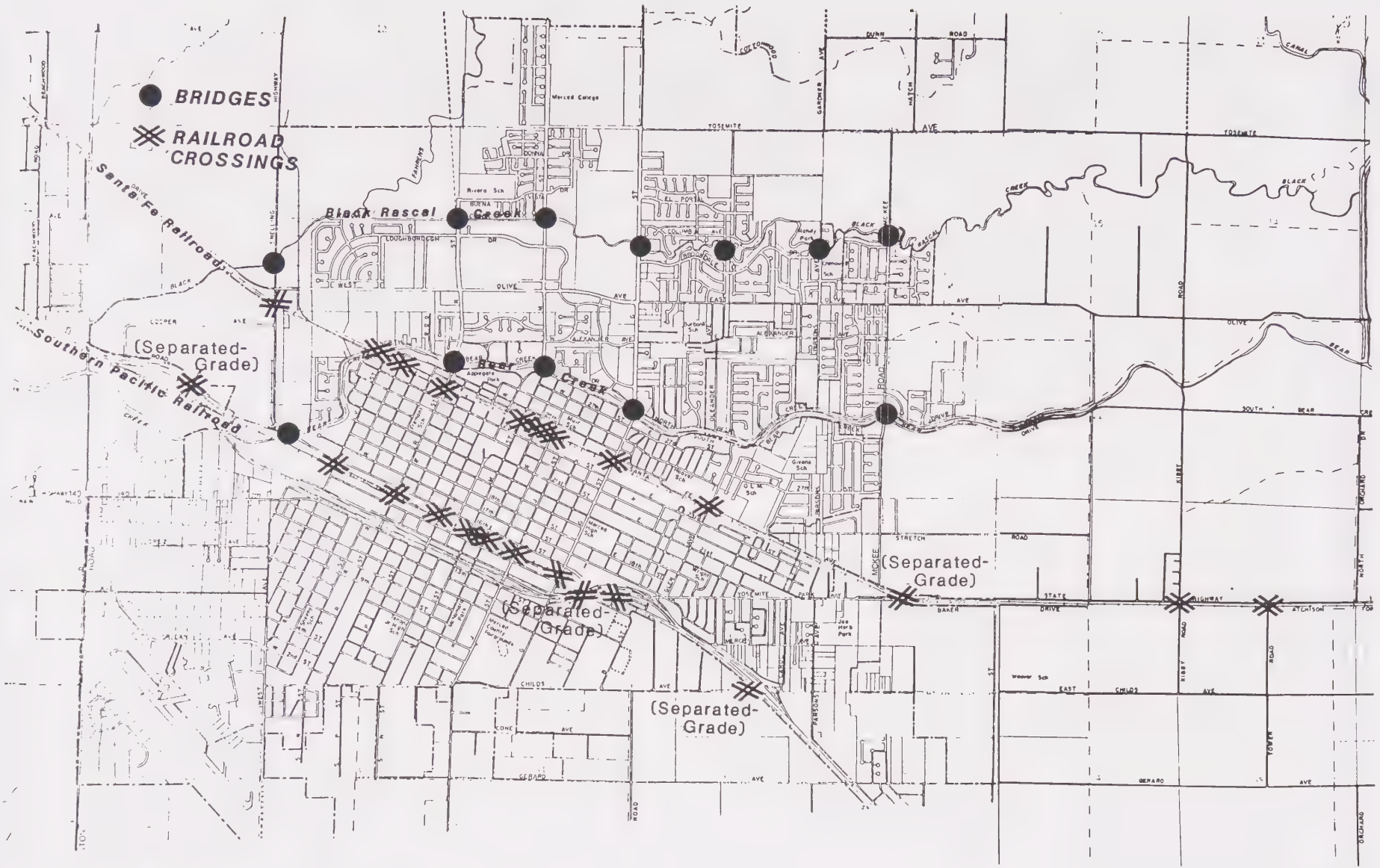


Figure 4.17

Bridges and Railroad Crossings

4.4.5 At-Grade Railroad Crossings

Railroads as a Barrier

Nearly all road crossings of both of Merced's rail lines are currently at-grade in the Merced urban area (*Figure 4.17*). The only exceptions involve State Route 140 (Bradley Overpass) for the Atchison Topeka & Santa Fe tracks through mid-town Merced and Highway 99 (at both the north and south ends of the community) for the Southern Pacific tracks that run in proximity to that highway.

Long freight trains can create significant traffic congestion and delays for vehicles waiting for them to pass, especially during peak hour traffic along the City's major north-south routes (G, M and R Streets). This problem is sometimes magnified because both railroads have provision for special switching operations on portions of their respective tracks within central Merced.

During a switching operation, trains pass each other at reduced speeds. At such times, significant traffic back-up occurs (particularly during peak hours), which creates extended delays for waiting motorists. Emergency vehicles are also subject to crossing delays. This is a particular concern for ambulances, since both existing hospitals lie outside the central Merced core area bounded by the two parallel rail lines.

The City has shown two additional rail crossings (Parsons Avenue/Santa Fe Railroad and Mistwood Avenue/Santa Fe Railroad) on plans for many years. The State Public Utilities Commission (PUC) must approve any new railroad crossings for the City.

Such approvals are rarely granted by the PUC, especially at-grade crossings, and the crossings remain only on plans. As Merced continues to grow, the constraints imposed by a restricted number of railroad crossings will also increase. It is important for the City to persist in its efforts to obtain PUC approvals for additional at-grade crossings.

It would be desirable to convert existing at-grade crossings on major streets to grade-separated facilities to improve traffic flow and facilitate emergency service provision. Grade-separated railroad crossings (either a bridge over or tunnel under the tracks) are expensive, however. Because of the high costs involved, only one existing at-grade crossing could likely be converted to a grade-separated facility. This crossing should be at a central location, such as on G or M Street. The City should evaluate the potential for achieving such a conversion.

4.4.6 Intersections at Issue

Both street segments (the portion of a street between two specified points) and street intersections (the point of meeting or intersection between a minimum of two streets) can be used to measure traffic impacts on a street circulation system. LOS (Level of Service), described in Section 4.4.1, measures how well traffic is moving on a road segment or at a street intersection in relation to the capacity of that portion of the circulation system.

Other yardsticks for measuring/ comparing intersections are accident rates or length of waiting time per driver.

unacceptable peak hour Levels of Service (LOS) E or F, and increasing traffic will only make this condition worse.

Left-turn movements from the off-ramps are especially difficult, resulting at the time of the report in average delays of 30 seconds during certain peak periods. Proximity (approximately 40 feet) of both southbound ramps to signalized intersections on 13th Street increases the congestion and delays.

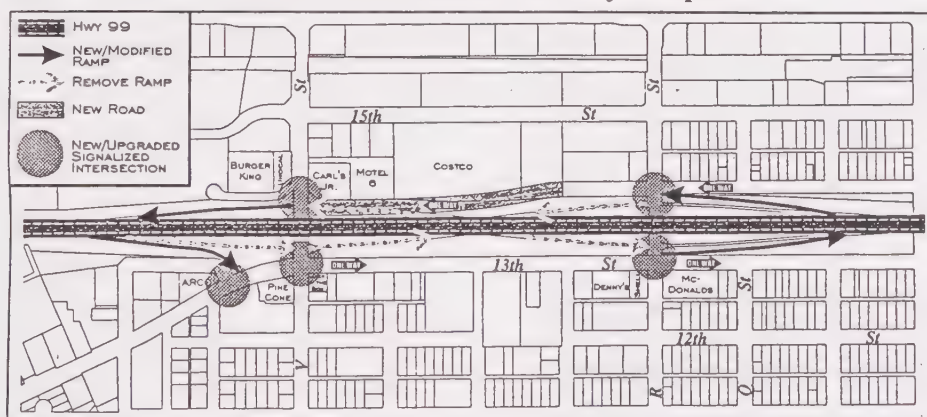
It is anticipated that a significant upgrading of City streets in proximity to Highway 99 will be required in order to keep the state highway operating at a viable level-of-service in the future.

This is possible if large numbers of short or local trips can be kept off the highway by offering efficient options.

The most likely change involves upgrading both 13th and 14th Streets to arterials and making them one-way routes (**Figure 4.21**). 13th Street would serve eastbound traffic only while 14th Street would serve westbound traffic. This change will most certainly need to take place from V Street to Martin Luther King and possibly extend to G Street. Modifications to the Martin Luther King and G Street interchanges may also be necessary in conjunction with these improvements.

Figure 4.21

13th & 14th Streets One-Way Couplet

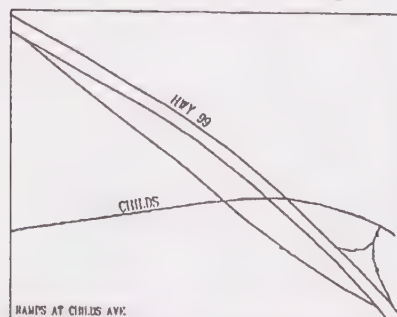


Highway 99/Childs Avenue

Both the City and County of Merced continue to grow in the southeastern portion of the urban area, south of Highway 140 and east of Highway 99. Access to this area is relatively constricted. Upgrading the existing Childs Avenue interchange with Highway 99 (**Figure 4.22**) would provide improved access to and from the area.

Figure 4.22

Childs Ave Interchange



A series of frontage roads which connect the G Street Interchange and the Childs Interchange with the proposed new Mission Interchange (see below) will also likely be needed in conjunction with these improvements. (These concepts are subject to further study and public review.) The closure of the Gerard Avenue median opening in Highway 99 was completed in late 1996.

New Interchanges

In addition to upgrades to existing interchanges described above, two new interchanges are proposed on the Circulation Plan. The Thornton/Highway 99 Interchange will connect the planned Highway 59 expressway to Highway 99 in the vicinity of Thornton Road (extended). This interchange will serve the City's northern growth area as well as the Southern Pacific Industrial Park and Airport Industrial Park.

The Mission/Highway 99 Interchange will connect the Mission Avenue circulation corridor, the expanded Santa Fe Industrial Park, and a possible future eastern beltway with Highway 99 at the southeastern end of the City. Caltrans has completed a preliminary design of this interchange, but further study of the orientation of the interchange (east-west along Mission Avenue or north-south along Healy Road) is still needed.

Issues relating to the development of these interchanges are also discussed in Section 4.7.2.

4.4.8 Transitways

Continued successful preservation of identified public transit corridors along

M Street and Bellevue Road will retain as much as possible future flexibility for prospective public transit options. Preservation should include acquisition and retention of larger right-of-ways (ROW's), where already designated, as well as careful evaluation of portions of these corridors that presently do not have extended ROW's, to determine if these areas need expansion.

M Street

Preservation should also involve careful processing of land uses in proximity to transit corridors, to avoid serious access conflicts between private vehicles and public transit. Finally, preservation needs to include a regional public transit perspective for agencies involved with land use planning in the region. This perspective should result in continuation of current growth patterns that have kept most major transit destinations within reasonable proximity to the two designated transit corridors (or close to other major roadways that radiate directly from these transit corridors and can conveniently serve as secondary transit routes).

Transit corridors that are effectively preserved could become the location of a light rail system. Related future transit options, such as a mono-rail or even alternatives not currently visualized, if they become economically viable, might utilize established corridors.

Bellevue Road

Bellevue Road is shown as an east-west arterial on the City's Circulation Plan. It is also shown as one of two transit corridors on that plan.

Bellevue is a key east-west circulation corridor because it is the most prominent near-term east-west route serving the future University of California (UC) campus northeast of Lake Yosemite. Bellevue can provide reasonably direct access to the UC site during its formative years. Its tie-in to the future M Street Transit Corridor also provides the prospect of a highly convenient public transit route from the City to the UC campus. A possible transit corridor to the west could become a tie-in to the City of Atwater and the designated regional job center at Castle Airport Aviation and Development Center.

Bellevue has the potential to be a much more significant regional route in the foreseeable future than other east-west arterials shown on the City's Circulation Plan. This makes it imperative that necessary rights-of-way (ROW's) be obtained throughout its corridor, in order to ensure its future viability. The City will work with Merced County, the City of Atwater, and MCAG to determine Bellevue's future role in the regional circulation system.

4.5 TRANSPORTATION SYSTEM MANAGEMENT

With ever increasing traffic volumes and limited resources to expand the capacity of some of the existing streets,

Transportation System Management (TSM) will play an important role in the future. The goal of transportation system management is to improve the movement of people and goods.

This can be done by expanding the carrying capacity of streets and transit systems, primarily through the implementation of short-run, low cost strategies. The strategies are to be used to prolong or avoid costly expansions of the facility or service.

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV's), Park-and-Ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

Coupled with air quality and congestion management, these strategies may result in near-term improvement of the operating characteristics of existing facilities and services.



4.6 TRANSPORTATION AND CIRCULATION GOALS, POLICIES, AND ACTIONS

Goal Area T-1: Streets and Roads

GOALS

- An Integrated Road System that is Safe and Efficient
- A Circulation System that is Convenient and Flexible
- A Circulation System that Minimizes Adverse Impacts upon the Community

POLICIES

- T-1.1 Design streets consistent with circulation function and affected land uses.
- T-1.2 Coordinate circulation and transportation planning with pertinent regional, State and Federal agencies.
- T-1.3 Design major roads to maximize efficiency.
- T-1.4 Promote traffic safety.
- T-1.5 Minimize unnecessary travel demand on major streets.
- T-1.6 Minimize adverse impacts on the environment from existing and proposed road systems.
- T-1.7 Minimize street system impacts on residential neighborhoods and other sensitive land uses.
- T-1.8 Use a minimum peak hour Level of Service (LOS) "D" as a design objective for all new streets in new growth areas and for most existing City streets except under special circumstances.

Policy T-1.1

Design Streets Consistent with Circulation Function and Affected Land Uses.

It is extremely important to coordinate circulation and land use planning. Street systems are intended to move motor vehicles but streets also are expected to provide access to near-by land uses. Smaller streets called upon to carry heavy traffic to major activity centers can create large circulation problems. Large streets carrying heavy traffic through residential or other sensitive land use areas can create significant conflicts.

Implementing Actions:

1.1.a Implement the General Plan Circulation Plan (Figure 4.1) as development occurs.

The City will implement the General Plan Circulation Plan as development occurs in new growth areas and in developed areas, as feasible. This may be accomplished through the dedication of needed right-of-way or transportation easements, the construction of roadway improvements, and/or the collection of fees, consistent with the impacts of new development.

1.1.b Whenever feasible implement a system of arterials and higher order streets in new growth areas based upon the adopted concept of arterials/expressways.

The adopted concept of arterials/expressways is designed to carefully separate streets by circulation function, and locate land uses consistent with these functions (Figure 4.1). Arterials and higher order streets will carry the higher-speed traffic to adjacent commercial, industrial and other major destinations. Collectors and local streets will be designed for local, neighborhood traffic that is either traveling towards a neighborhood destination or is exiting the area. It is important to try to apply these same principles to the extent possible in planning partially developed areas that have incomplete road networks.

1.1.c Evaluate existing streets in older portions of the City, and identify means of upgrading the system where necessary.

As in-fill development and redevelopment occurs, existing street systems should be evaluated to determine if there are ways that circulation efficiency can be improved without causing undue impacts on the neighborhoods.

1.1.d Design and build residential collector streets that balance as effectively as possible competing needs to be safe and efficient.

The community needs to continue to seek and evaluate design options and other ways that might help to reconcile the competing functions of residential collector streets (to be safe for local neighborhood residents while being reasonably efficient traffic carriers). The City also needs to distinguish collector streets ("Major Collectors") that, because of certain characteristics, are likely as time passes to experience increasing traffic pressures and impacts on adjacent residential settings.

[NOTE: A "Major Residential Collector" is defined as 1) being of one-half mile or more in uninterrupted length; 2) having a current or projected ADT (Average Daily Trips) of 1,500 or higher; and 3) having outlets to at least one higher order street at an intersection which is either signalized or projected for future signalization. A Major Collector by its location a) is a central element of its neighborhood circulation system with connection to additional neighborhoods; and b) will receive, or is projected to receive, significant through traffic increases from outside its primary service area to major destinations to which the major collector has convenient access. Major Collectors would be the same width as other Collectors, but should have no residential driveways accessing directly upon them. See Appendix 4.8.1.]

1.1.e Study projected future areas of city expansion prior to development to identify the most effective circulation pattern(s).

Conceptual circulation planning should identify potential points of concern as early as possible in the planning process in order to obtain the most effective land use and circulation decisions. Circulation patterns should be based upon such factors as current patterns of land ownership, existing land use activities, present circulation patterns, and adopted land use plans.

1.1.f Evaluate the area in proximity to the Childs Avenue/Martin Luther King Jr. Way intersection to obtain at least preliminary information regarding the general extent of area required to achieve an acceptable alignment of the intersection.

It is important for both the City and potentially affected property owners in the area to have some idea of the possible adjustments that will be needed in order to provide a better aligned intersection.

1.1.g Evaluate the current "Cardinal Drive" access point to G Street shown on the Northeast Yosemite Specific Plan Area map, to determine if a more appropriate access location exists to G Street for that Specific Plan area.

Any official consideration of relocating "Cardinal Drive" to a more central access point between Cardella Road and Yosemite Avenue would require agreement by two separate ownership groups within the Northeast Yosemite Specific Plan area. Coordination of access at the one-half mile point would appear to offer significant advantages to both owners and future residents of the area. The addition of a right-turn in/right-turn-out intersection should also be considered 1/4 mile south of Cardella. Evaluation of this issue should take place with a minimum of delay, in order to minimize impacts on future development.

Policy T-1.2

Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies.

Traffic-related problems including significant concerns over air quality in the Great Central Valley have helped to forge requirements for more and more inter-governmental cooperation and planning, often tied to prospective State and Federal funding. The City needs to remain active in these efforts, while also periodically reviewing its position within these procedures.

Implementing Actions:

1.2.a Work with Caltrans, the County, and MCAG to implement the Highway 99 Major Investment Study (MIS) once it is adopted and amend the City's General Plan as necessary.

The Highway 99 Major Investment Study (see Section 4.7.3) addresses necessary improvements to Highway 99 and its interchanges as it travels through the City as well as the City's major street system as it ties into Highway 99 and other regional roadways. It is intended that the General Plans of the City of Merced, Atwater, and Merced County will be amended to incorporate the conclusions of the MIS.

1.2.b Coordinate local circulation/transportation plans, the financing and construction of improvements, and right-of-way preservation programs with interested area and regional agencies.

The City works with numerous other bodies, including Merced County, Merced Association of Governments (MCAG), and Caltrans (the California Department of Transportation), concerning transportation and circulation matters. This will become even more important in the future as traffic volumes increase and funding sources decrease.

1.2.c Identify a hierarchy pattern of major streets within the City's General Plan and Sphere of Influence areas, and work with the County of Merced and Caltrans to retain unimpeded future rights-of-way to accommodate the current general plan period and projected future growth.

It is extremely important that prospective right-of-ways (ROW's) be protected from permanent development whenever feasible, not only within the City and in its immediate growth areas but also in areas projected for longer term growth. This will benefit both City and County, in terms of reduced costs as well as potential efficiencies to be gained from sufficient roadways. This will involve working with the County on developing an appropriate fee structure that would be used for specific identified road improvements on a priority basis. Maintenance issues relating to roadways built to City standards in areas not yet annexed can also be addressed through this process.

The City shall also work with Caltrans and MCAG to insure the preservation of adequate rights-of-way for State highways and interchanges as outlined in the Highway 99 Major Investment Study, the Regional Transportation Plan, and other regional plans.

1.2.d Work with the County and Caltrans to implement improvements to the Highway 59 Expressway corridor as a high priority to serve the northern growth area. An important first step will be the development of a Project Study Report (PSR) for the corridor.

More detailed work needs to be done on the proposed Highway 59 Expressway before it can be funded and constructed. One such important step is the development of a Project Study Report. This report would address alignment, scope, preliminary engineering, needed right-of-way, cross-section design, access restrictions, frontage road configurations, and costs of expressway alternatives. After this report is completed, a plan line could be adopted in order to preserve necessary right-of-way for the project.

Policy T-1.3

Design Major Roads to Maximize Efficiency.

Based upon the physical characteristics of a particular roadway, it is possible to calculate the maximum "peak-hour carrying capacity" for that road. Carrying capacity refers to the maximum number of motor vehicles the road can carry past a given point within a specific period of time, at a pre-determined realistic or reasonable speed. If the number of vehicles were to exceed this maximum capacity, the vehicles will begin to slow down, which in turn reduces the number of vehicles the road can safely carry. Every intersecting street, as well as every curb cut, that allows vehicles to interrupt the traffic flow, either by slowing down to exit or by entering the road, affects both the speed and number of peak-hour vehicles the roadway can accommodate.

Implementing Actions:

1.3.a Adhere, to the greatest possible extent, to the standards adopted for spacing streets that intersect arterials and higher order roadways.

The locations at which streets intersect a major roadway, and the spacing or distance between such intersecting streets, are important factors affecting how well the major road fulfills its traffic carrying responsibility. The growth of traffic over time, along with accompanying disruptions such as increasing numbers of vehicle accidents, can significantly affect the efficiency of intersections.

Spacing is a critical element in any subsequent need for installing traffic signals. Effectively spaced traffic signals can be efficiently synchronized. This allows greater peak hour efficiency, with more vehicles traveling farther, and faster, during these problem periods. As spacing becomes less consistent, traffic signals can themselves cause disruption and be less effective for moving traffic.

Poor locations and/or spacing create problems that even signals will not be able to overcome. Proper distances involve one-eighth and/or one-quarter mile spacing for streets intersecting with divided and higher order arterials, and one-mile distances for streets intersecting with expressways (refer to Appendix).

1.3.b Improve traffic flow of all new arterial streets to the greatest possible extent by the use of median strips of sufficient width to facilitate vehicle movement.

Medians of sufficient width provide the necessary space for turning lanes that help to keep traffic moving efficiently. They also allow a safe haven for cross-traffic vehicles where there are median openings for such traffic. In addition, they may act as a safety island for pedestrians who may be crossing, and add a measure of safety for separating traffic traveling in different directions.

1.3.c Improve traffic flow of arterials and other major roadways whenever possible by avoiding or eliminating on-street parking.

On-street parking affects traffic speed and movement, and can increase safety problems along major roadways.

1.3.d Work to insure that land uses fronting major streets have shared access across adjacent properties and provide sufficient on-site parking to avoid depending upon on-street parking.

Shared access across adjacent properties helps to improve the efficiency of major streets by allowing traffic movements between adjacent properties to take place on-site and off the public street. This is particularly important for adjacent commercial properties. This shared-access should be formalized with mutual access easements as much as feasible.

On-street (curb-side) parking on major streets may be eliminated if traffic conditions warrant. Elimination of curb-side parking can create a negative impact on adjacent land uses and its residents/customers if they have grown to depend upon it. Occasionally site plans may orient a land use activity in a way that makes on-street (curb-side) parking more convenient to an entrance than on-site parking. Such designs should be discouraged. On the other hand, care should be taken to consider the location of public transit stops (which are unlikely to change) and the provision of convenient access to these stops.

1.3.e Promote the provision of on-site visitor parking in multi-family projects.

It is important to consider whenever possible the provision of on-site visitor parking in multi-family complexes so that on-street parking (which could be restricted in the future along major roadways) is not solely relied upon.

1.3.f Whenever feasible avoid, or eliminate, unnecessary or poorly placed median openings.

Median breaks can cause interruptions in the freeflow of traffic on a major street. Effective placement of these openings helps to minimize traffic disruptions and works to maximize major street efficiency.

1.3.g Avoid residential “fronting lots” on Major Collectors and higher order streets.

Residential traffic entering or leaving private driveways that front upon major collectors and other higher order streets (that are intended to efficiently carry traffic) create safety conflicts with traffic and affect traffic movement, particularly during peak traffic periods and if vehicles are backing onto the street. When the front of the house faces directly onto the street, residents also tend to be concerned about high-speed traffic passing by their front yards where children may play and where noise impacts are greater.

1.3.h Obtain whenever feasible necessary rights-of-way in proximity to major intersections for needed turn lanes.

Intersections can become bottlenecks to efficient traffic movement. A key to maintaining smooth-flowing traffic is to avoid as much as possible the disruption of through traffic by turning vehicles. Turn lanes of sufficient length are effective for removing traffic that is slowing to turn, with a minimum of impact upon through traffic. This can be especially important in older areas of the City where widening the entire street may not be possible, but where expanded intersections can reduce congestion.

1.3.i In new growth areas, obtain expanded arterial intersection rights-of-way (ROW) requirements.

As development projects are proposed in new growth areas, the expanded arterial intersection ROW's generally described in the Appendix (Section 4.8) should be dedicated, so that turn lanes can be established in these intersections when traffic conditions warrant.

1.3.j Maintain the land use and access restrictions identified for major collector and higher order street intersections.

Streets have functions that are often at odds with each other. Major roads are expected to carry large amounts of traffic at reasonable speeds. Each intersection, driveway access, or median break that allows other traffic to enter or otherwise disrupt the traffic flow of a major street reduces efficiency (traffic-carrying ability) from that major street. An intersection of two major streets becomes a point where each disruptive movement within proximity to the intersection has heightened potential to affect traffic flows on each street. Major traffic entering and leaving large commercial complexes or other major vehicle destinations create a variety of traffic movements that can magnify disruptions on traffic flow. Avoiding driveway access movements in the vicinity of major intersections promises to help maximize traffic flows, thereby maintaining efficiency while reducing air quality impacts at those intersections.

1.3.k Approve driveway access locations only if consistent with approved minimum acceptable distances from major intersections, except in unusual circumstances.

Driveways can help disrupt major street traffic flows. Over time a driveway can be expanded, land uses can intensify, and other changes can take place that can significantly increase the impacts of a driveway on major street traffic. It is important to maintain adopted driveway location standards, and to avoid driveway locations that can conflict with major street intersections. It is also important to consider the ultimate build-out of the area when determining needs at the time of initial construction.

(Notes: Chapter 5, Public Services and Facilities, contains policies relating to the timing of infrastructure improvements, including circulation improvements.)

Policy T-1.4 **Promote Traffic Safety.**

As traffic levels on a street approach the street's effective capacity, and as various factors affect how a roadway functions, safety is also affected. This interrelationship lends itself to some repetition among implementing actions relating to safety.

Implementing Actions:

- 1.4.a If fronting driveways cannot be avoided on a Major Collector or higher order street (see Action 1.3.g), seek design solutions that will allow automobiles to avoid backing out.**

There are driveway designs that allow residential vehicles to avoid backing out into street traffic. Examples are circular driveways or the provision of "hammerhead" turn-arounds on site. Typically, however, such designs are more workable with larger residential lots, and the most effective solution remains the avoidance of direct residential driveway access if at all possible where backing traffic will create particular disruptions (refer to previous Implementing Action 1.3.g).

- 1.4.b Allow only adopted spacing of streets intersecting and traffic signals on any Arterial or higher order street, unless prior actions or unusual circumstances make this infeasible.**

Effective intersection spacing contributes to more efficient traffic flow and helps reduce unnecessary stop and go traffic.

- 1.4.c Promote increased traffic safety with special attention to hazards which could cause personal injury.**

Continue to maintain existing practices related to safety such as: maintain adopted sight-line requirements (line of uninterrupted vision along which a vehicle operator can see traffic, bicycles or pedestrians approaching from an intersecting street) at designated street intersections; continue to monitor street intersections to identify unusual levels of traffic accidents; etc. Evaluate ways to increase the effectiveness of traffic safety efforts.

- 1.4.d Reserve adequate road and intersection right-of-way to provide for the needs of traffic safety.**

Sufficient right-of-way for facilities such as right and left turn lanes help to improve traffic movements in the vicinity of intersections.

- 1.4.e Continue as feasible to mitigate or reduce safety hazards, and program improvements to congested intersections before they become significant problems.**

It is important to implement improvements as feasible. It is also important to recognize that it is often more cost effective to avoid creating significant traffic conflicts than it is to attempt to reduce or mitigate them once they have become problems. The City should continue to review development applications to mitigate prospective concerns as they are identified.

- 1.4.f Seek to improve or correct the specific problem locations identified as "Circulation System Improvement Problems" in the City's Circulation Element.**

Pursue all available inter-governmental assistance and other sources, as feasible, for help to mitigate problem intersections and other identified site specific problems within the City's circulation system.

Policy T-1.5

Minimize Unnecessary Travel Demand on Major Streets.

Traditional circulation patterns often tend to make it inconvenient for a driver to make a neighborhood or other local trip without getting onto a major street. It is important to have a circulation system that provides the flexibility to allow neighborhood and other trips on local roads, while encouraging non-local trips to use the major road system.

Implementing Actions:

1.5.a Encourage design of local and collector streets within Villages/Neighborhoods to provide multiple, reasonably direct routes to local neighborhood destinations.

It is important to build flexibility into neighborhood circulation for reaching local destinations. At the same time, it is important to provide the opportunity for a local driver to reach the nearest major (arterial) road directly and quickly, if the destination is more distant. These needs must be carefully balanced with the need to discourage outside traffic from taking shortcuts through residential neighborhoods as described in Implementing Action 1.7.b. In other words, routes may need to be less direct in order to discourage such shortcuts but not so indirect as to make it difficult for neighborhood residents to reach their destinations.

1.5.b Avoid whenever feasible neighborhood street system designs that make it more convenient for a local resident to use an arterial street to reach an in-neighborhood destination than to remain on the local street system.

Often local street circulation patterns, whether intended or not, include barriers to the local driver who seeks to go to certain near-by destinations. The result is often that the driver is forced to go onto the major street system in order to reach a destination adjacent to the local neighborhood. This also usually means that a bicycle rider or pedestrian would have been forced into the same inconvenient, out-of-the-way trip, which is often the reason such trips are only made by automobile.

Policy T-1.6

Minimize Adverse Impacts on the Environment from Existing and Proposed Road Systems.

In an automobile-oriented economy, growing urban areas like Merced have significant and growing numbers of vehicle trips per day. The amount of fossil fuels used and the amount of air pollution created each day by these trips are just two ways in which the environment is affected by Merced's traffic. The more efficient traffic movement is, the less fuel is consumed and the less air pollution is created. As traffic movements become less efficient (more stops, more slowing down and speeding up, etc.), the more traffic-related impacts are created on the environment.

Implementing Actions:

1.6.a Continue working to minimize environmental impacts associated with heavily traveled traffic corridors, such as high noise levels and stop and go traffic situations (which contribute heavily to air pollution problems).

Noise impacts can be reduced by such methods as solid walls, and heavy landscape barriers such as trees or heavy foliage. In the case of new roads it may be relatively easy to find the opportunity to use these design methods. In older residential areas, however, with houses facing directly onto roadways that are becoming more heavily traveled, options to use noise barriers are typically more constrained. The use of some types of barriers on medians (if space is available) may reduce some noise but, perhaps as importantly, reduces visual impacts.

1.6.b Make a strong commitment to increase the number of people per vehicle so that the existing street system is utilized to its fullest.

Continue to support MCAG efforts to encourage and promote carpooling and other alternatives to single-occupancy vehicles. Consider the use of HOV lanes if and when they become feasible to use in Merced.

1.6.c Consider ways to encourage employers to reduce impacts upon the existing street system.

Examples could include encouraging large employers to promote carpooling and other transportation alternatives within their work force, as well as encouraging, if feasible, staggered working hours.

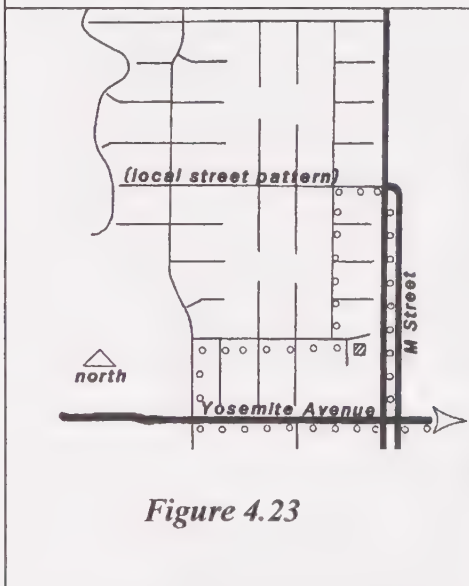


Figure 4.23

1.6.d Avoid neighborhood street system designs whenever possible that require a local resident to travel away from a local destination in order to reach it.

Street systems at times force inefficiency by requiring vehicles and pedestrians to double-back or double the distance they travel in order to reach a nearby destination. Such situations should be avoided if at all possible.

For example, in *Figure 4.23*, the nearest retail center is one-half mile (along the directional arrow) from the indicated residential site. With the given road pattern, however, the shortest automobile distance is nearly one-mile (indicated by o o o o o).

1.6.e Install traffic control devices only where warranted except in unusual circumstances.

Caltrans has established a rating system for determining where traffic control devices, such as stop signs and traffic signals, should be installed. This "warrant" system considers such factors as the numbers of accidents, traffic volume, numbers of pedestrians, and the presence of schools. Traffic control devices should only be installed where they meet the minimum requirements of this warrant system.

"Unwarranted" signals and signs may cause excessive delay, disobedience of traffic regulations, circuitous travel of alternative routes to avoid the devices, and increased accident frequency. These conditions negatively impact air quality and the efficiency and safety of the circulation system.

Policy T-1.7

Minimize Street System Impacts on Residential Neighborhoods and Other Sensitive Land Uses.

The City has for many years fostered an inter-departmental, inter-agency development review process which evaluates matters such as street design and street improvements, and their possible impacts upon affected land uses.

Implementing Actions:

- 1.7.a To the greatest extent feasible, maintain a distinct hierarchy of streets that will provide for major roadways between neighborhoods rather than through neighborhood areas.**

Major streets on the perimeter of neighborhoods or villages promise to cause the least amount of disruption to those areas. In new growth areas arterials and higher order streets should be located to form the boundaries of neighborhoods, by placing them parallel to each other at one mile intervals, perpendicular to similarly spaced major street patterns to form approximate one-mile square neighborhoods or village areas. These villages are intended to be oriented around local activities such as parks and schools, as well as some level of commercial activity that would be located at the village edge with the intent to also avoid unnecessary intrusion through the neighborhood.

- 1.7.b Whenever feasible, approve street circulation patterns that discourage exterior traffic from driving through neighborhoods.**

The intent is to make local trips, within the neighborhood or shortly beyond, convenient for the local resident (Action 1.5.a) while at the same time, making it inconvenient for the driver from outside that neighborhood to use the same road system as a short-cut during a longer trip. This is a critical distinction. If a street system is designed to be “perfectly convenient” for the local driver, it will almost surely be as convenient for outside drivers who speed through that neighborhood on their way to somewhere else.

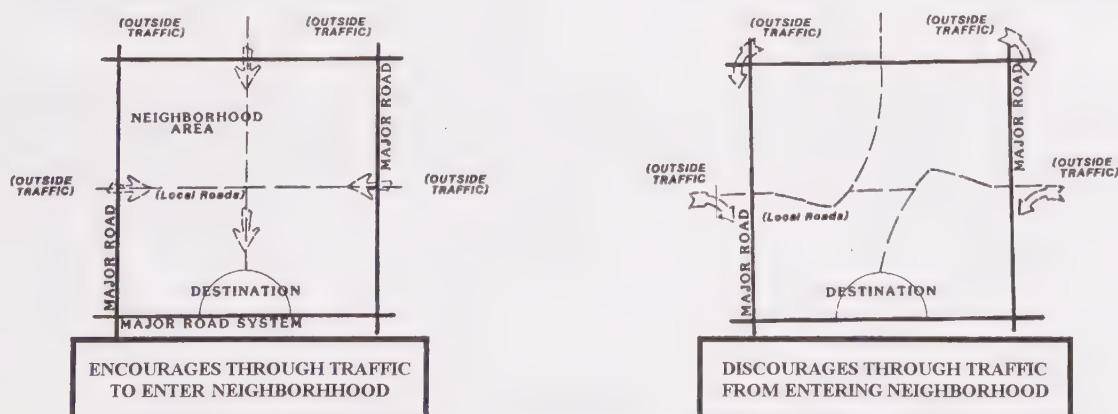


Figure 4.24

Policy T-1.8

Use A Minimum Peak Hour Level of Service (LOS) “D” As a Design Objective for All New Streets in New Growth Areas and for Most Existing City Streets Except Under Special Circumstances.

As the City grows, traffic volumes will increase significantly. In designing the City’s future circulation system, the City has required sufficient rights-of-way be preserved to maintain an adequate level-of-service, a minimum of LOS “D” but typically LOS “C” or better. On some existing roadways, such a standard will most likely not be able to be maintained without widening these roadways and causing great disruption to adjacent properties. The City will strive to maintain the minimum LOS throughout the system, but some exceptions may need to be made.

Implementing Actions:

- 1.8.a Traffic studies will be conducted as needed to determine the traffic impacts and to apply appropriate mitigation measures for new development projects.**

The California Environmental Quality Act (CEQA) requires cities to assess the environmental effects, including traffic impacts, of new development. Based on the conclusions of the “initial study,” the number of trips generated, or cumulative impacts, a detailed traffic analysis may be required. When the traffic analysis shows that the development will cause an intersection or roadway segment to drop below desired LOS standards, the City will require the new development to alleviate its share of the congestion as a condition of project approval.

- 1.8.b Use peak-hour Level of Service “D” (“Tolerable Delays”) as the design standard for new streets and intersections in new growth areas.**

The preferred LOS levels are typically “C” and “D,” particularly for larger roads and major intersections. With LOS C the road provides stable operation but is still underutilized to some degree. LOS D represents a fine balance between the relatively large number of vehicles served and the generally acceptable level of service provided. It is the intent of the City’s standards and policies for new and most upgraded intersections and road segments to be designed and built so as not to drop below LOS D (“tolerable delay”) during peak traffic periods.

- 1.8.c Establish minimum Level of Service standards for existing roadways and intersections that reflect the special circumstances of the surrounding area.**

Maintaining a Level of Service D on existing roadways and intersections is not always feasible, appropriate, or necessary. People may expect and tolerate varying levels of congestion depending on location (e.g. central Merced) and time of day. Heavier traffic can also be a reason to encourage greater pedestrian activity and heavier transit use in such areas. Other factors may make higher levels of service infeasible. In central Merced, for example, widening existing streets could create great disruption to stable, older neighborhoods. In these areas, “significant delays” (LOS E) or even LOS F may have to be acceptable at peak hours. Special studies may be necessary to determine the appropriate LOS standards in such areas.

- 1.8.d Promote Transportation System Management (TSM) strategies in areas where LOS standards fall below the minimum.**

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for High Occupancy Vehicles (HOV’s), Park-and-Ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies which will be promoted by the City of Merced.

Goal Area T-2: Alternative Transportation

GOALS

- **An Efficient and Comprehensive Public Transit System**
- **A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)**
- **A Comprehensive System of Safe and Convenient Pedestrianways**

POLICIES

- T-2.1** Provide for and maintain a major transitway along "M" Street and possibly Bellevue Road.
- T-2.2** Support and enhance the use of public transit.
- T-2.3** Support a safe and effective public transit system.
- T-2.4** Encourage the use of bicycles as alternative transportation.
- T-2.5** Provide convenient bicycle support facilities to encourage bicycle use.
- T-2.6** Maintain and expand the community's existing bicycle circulation system.
- T-2.7** Maintain a pedestrian-friendly environment.
- T-2.8** Improve planning for pedestrians.
- T-2.9** Ensure that new development provides the facilities and programs that improve the effectiveness of Transportation Control Measures and Congestion Management Programs.

Policy T-2.1

Provide for and Maintain a Major Transitway Along "M" Street and Possibly Bellevue Road.

The City is fortunate to have a central corridor, containing many of the major land use destinations within the urban area, aligned in general proximity to the length of "M" Street. These destinations would be convenient to a primary transit route on this roadway, and additional urban area destinations would be convenient to secondary or connecting routes on roads perpendicular to "M."

Implementing Actions:

- 2.1.a Continue to review land use decisions in the vicinity of the entire length of "M" Street to avoid creating or increasing conflicts with the intent of a major transitway.**

Major land use project proposals in proximity to the "M" Street area should be evaluated for possible long term consequences, such as orienting primary vehicle access for such projects directly onto "M" Street, if another option(s) exists.

- 2.1.b Cooperate with Merced County and other interested agencies outside the City to maintain long-term flexibility to achieve an "M" Street Transitway.**

"M" Street is designated a "Transitway" within the City's general plan growth areas on the Community's Circulation Plan Map. This corridor should be shown on regional circulation plans, illustrating a broad-based planning effort to maintain future public transit options to accommodate city expansion as well as possible University of California (UC) growth in the region.

- 2.1.c Continue to review land use decisions in the vicinity of "M" Street and Bellevue Road to avoid creating or increasing conflicts with the proposed future major commercial and office park sites at the major transfer point between designated transitway corridors.**

The prospective intersection of Bellevue Road and the future "M" Street (extended) is also the intersection of two transitway corridors designated on the Circulation plan. The proposed "M" Street Transitway is projected to run the entire north-south length of the City, while the prospective Bellevue Road Transitway would tie the "M" Street Transitway eastward towards the future University of California (UC) campus (and possibly westward to the potential regional job center at Castle Airport Aviation and Development Center). It is important that land use decisions, relating to major commercial activities proposed for the immediate area, are carefully considered to avoid conflicts with the major public transit function also proposed in the location.

- 2.1.d Cooperate with Merced County and other interested agencies outside the City to maintain a viable option for a Bellevue Road Transitway to provide regional public transit access to the University of California (UC) campus.**

The Bellevue Road Transitway Corridor concept needs to be considered as part of any cooperative planning process for the future University of California (UC) campus and its environs. This may also include further evaluation to confirm viability of this concept for providing public transit access to the UC.

2.1.e Cooperate with Merced County and other interested agencies outside the City to evaluate the need to extend westward the Bellevue Road Transitway Corridor Concept.

The General Plan's Circulation Map identifies a Bellevue Road Transitway, extending eastward from the "M" Street Transitway corridor, providing regional public transit access to the future UC campus. In connection with this prospective transitway to the east, it may also be advantageous to have the Bellevue Transit corridor extend westward in order to provide regional public transit access to the regional job center at the Castle Airport Aviation and Development Center site.

2.1.f Work cooperatively with Merced County and other interested agencies to review and evaluate development proposals in the vicinity of Bellevue Road that might conflict with the prospective Bellevue Transitway.

Bellevue Road is designated as both an "Arterial" and a "Transitway" on this General Plan's Circulation Map. It will be important to obtain full regional cooperation to protect the future right-of-way (ROW) for this corridor, and to mitigate prospective impacts from any development projects upon these potential functions of this major roadway.

Policy T-2.2

Support and Enhance the Use of Public Transit.

Continue to cooperate with MCAG and other interested administrations and agencies to develop ways and seek methods for making public transit more successful in the Merced area.

Implementing Actions:

2.2.a Promote land development patterns and site design criteria that support and enhance the use of public transit.

While public transit ridership has not been particularly significant in the past in Merced, it has provided an important service to focused groups within the community. As Merced grows and as other factors change, it is more than likely that the use of public transit will increase in this area. It is important for the City to carefully evaluate how it can most effectively plan for this expanded demand before it happens. In this way, the City can seek to maintain flexibility to facilitate expected future public transit demands.

2.2.b Whenever feasible, avoid residential subdivision designs that require pedestrians to duplicate walking distance (double-back) to reach public transit routes.

A key to public transit is to make the system readily available. Land planning that actually builds barriers into the system for prospective transit users does not encourage transit use.

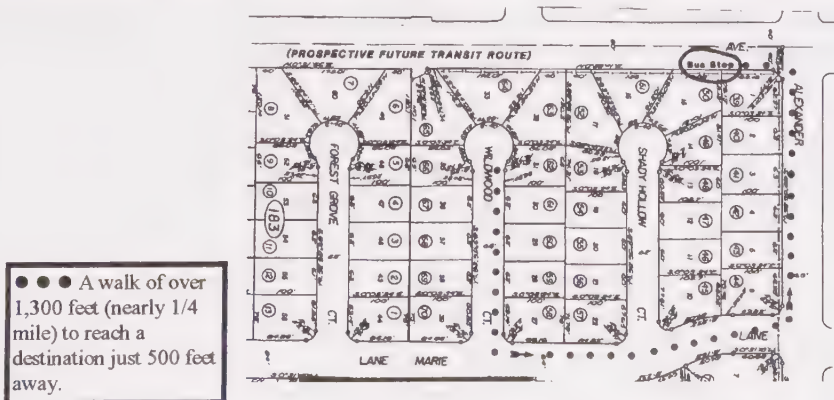


Figure 4.25

2.2.c Whenever feasible, avoid creating barriers that prevent convenient access to current or prospective public transit routes.

Considerable care needs to be taken to insure that development and redevelopment designs provide as much flexibility as feasible for non-vehicle circulation. Long, unbroken walls, misplaced cul-de-sacs, ill-conceived residential subdivision road patterns, etc., all can create limitations on how conveniently pedestrians can circulate through a neighborhood. It is important for residents to be able to reach the closest public transit route as directly and easily as possible. The more difficult it is for riders to reach a transit route, because of unnecessary or ill-conceived barriers, the more difficult it will be for public transit to serve the population effectively.

2.2.d Work with the consolidated transit system to seek Federal, State, and other funding sources which provide major funding for transit equipment, maintenance, and operation. Support legislation which will provide additional funding.

The City has received considerable assistance over many years from outside funding sources to supplement City expenditures for transit equipment, maintenance and operation. The City should continue to support similar efforts as part of the consolidated transit system.

2.2.e Support and participate in regional public transit planning

Through MCAG and the Merced County Consolidated Transit Agency, the City of Merced should continue to participate in planning efforts which promote improvements to the regional and local public transit systems.

2.2.f Plan for multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.

Identify locations where transportation systems converge and designate such areas as potential multi-modal transfer sites.

2.2.g Encourage park and ride lots at suitable locations serving long distance and local commuters.

There are many ways for providing such facilities. The City should evaluate possible alternatives, including:

- 1) working with Caltrans and the Air District (SJVUAPCD) to identify suitable sites, which could be designated on the general plan land use and circulation plans;
- 2) consideration of funding of park and ride lots as mitigation during CEQA review of residential development projects;
- 3) coordinating with appropriate transportation agencies and major employers to establish express buses and vanpools to increase the patronage of park and ride lots; and,
- 4) allowing developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park and ride lots and multi-modal transfer sites.

Policy T-2.3

Support a Safe and Effective Public Transit System.

Cost effective, efficient public transportation is important in any effort to provide a level of service necessary to attract increasing public ridership.

Implementing Actions:

- 2.3.a Include public transportation access in the review process for major public and private development projects, as well as all significant land use design proposals considered by the City.**

In view of the urban area's growth potential, including the future addition of the University of California (UC) which will no doubt add to the demand for public transit, it is important for public transportation management to take a long range view of how land and site planning can possibly affect future public transit options.

- 2.3.b Provide transit stops on major streets.**

The City's needs to evaluate where future bus routes are likely to go and obtain facilities for such service, as feasible.

- 2.3.c Avoid whenever possible public transportation transfer points that force passengers to cross major vehicle routes on foot.**

If feasible, public transit route transfer points should be located at one point, such as in conjunction with a major commercial area, so that passengers can go from one route to another with minimum inconvenience.

- 2.3.d Provide off-street passenger loading/unloading at major public transportation destinations (shopping centers, etc.) whenever possible.**

This is more convenient for a higher percentage of passengers and also facilitates transfers, easing passenger problems in inclement weather, etc.

Policy T-2.4

Encourage the Use of Bicycles as Alternative Transportation.

Studies have indicated that bicycles are the most efficient form of transportation ever devised, from the standpoint of energy expended versus distance/speed attained. Given Merced's attractive climate and flat terrain, bicycle transportation can be very effective.

Implementing Actions:

- 2.4.a Encourage area employers to promote bicycle use through incentive programs or other means.**

A number of governmental agencies are concentrated in the central portion of the City, which could lend itself to the use by the City and other large employers of successful methods for increasing bicycle ridership.

2.4.b Study options and opportunities for extending the off-street trail (pedestrian and bicycle path) system to and through those portions of the City of Merced south of Highway 99.

This is a proposed topic for study/evaluation after completion of this General Plan process.

2.4.c Continue to support whenever feasible local efforts to promote cycling.

In recent years, private promotion has brought a series of special cycling races/events to the Merced area. These events have been a worthwhile public relations for both the Merced area and for cycling, and have helped to promote public awareness of the potential for bicycle riding in this area.

2.4.d Seek to involve a cross-section of actual bicycle users in bicycle planning efforts and transportation-related bicycle activities.

Bicycle users may be valuable resource people for bicycle-related planning efforts. It is important to remember that there are very different bicycle populations. There are recreational bicycle users, those who commute to work, and also the “semi-professional riders” who are intense cyclists. There may be large differences of opinion between these groups regarding various bicycle topics, and broader input is needed in order to obtain a reasonable array of information and usable advice.

Policy T-2.5

Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use.

Because bicycles are light and mobile, it is extremely important that facilities be provided to secure them. Support facilities that help to make bicycle use convenient are important to encouraging a greater level of bicycle usage.

Implementing Actions:

2.5.a Develop guidelines for public and private development relating to the design and location of bicycle parking facilities.

It is not good enough to provide parking facilities merely consistent with those provided for automobiles. If a bicycle rider is forced to park a bicycle in an inconvenient area, subject to bad weather, or walk just as far in inclement weather as someone using a car, incentive is greatly reduced for the average rider. Bicycle parking needs to be protected, needs to be more convenient than that provided for cars, etc. There have to be special advantages granted to those willing to ride, to make bicycling a realistic option.

2.5.b Design criteria in the construction of all bicycle trails, lanes and routes (Class I, II, and III bikeways) should conform to the State of California “Planning and Design Criteria for Bikeways in California;” Class I bikeways should have grade separation with all major streets where possible.

The off-road bicycle/pedestrian trail system in the Merced region, financed in part by State and Federal funding, meets the construction standards required in order to obtain this assistance. Experience over many years with the existing standards has indicated a high level of public acceptance and satisfaction as well.

2.5.c Consider providing bicycle racks on buses.

The provision of bicycle racks on buses has proven in other areas to be an effective tool for promoting bicycle and transit use.

Policy T-2.6

Maintain and Expand the Community's Existing Bicycle Circulation System.

The City of Merced and Merced County have cooperated to develop an impressive regional bicycle system in the Merced/Lake Yosemite area. This has helped to place this area in a position to attract major cycling events. The bicycle system is also an important community and regional recreational asset. In addition, location of the University of California (UC) in proximity to Lake Yosemite will make an attractive and usable regional system much more useful and valuable.

Implementing Actions:

2.6.a Coordinate implementation and planning of the Bicycle Transportation Plan with the County of Merced and the University of California.

City and County have a tradition of working together on off-road bicycle/pedestrian trails, as evidenced by the existing regional trail system tying together Merced and a significant portion of the greater urban area, including Lake Yosemite. Given Merced's flat terrain, there is potential for bicycle commuting to be a significant travel mode for the UC campus. A 1970's UC study suggested that bicycle usage is significant at all UC campuses for student commutes up to 5 miles, about the distance from Merced to the campus. Coordinating bicycle planning with the University will, therefore, be critical.

2.6.b Pursue all available revenue sources for implementing the Bicycle Transportation Plan.

The City has been very successful over many years in obtaining monies that have helped to put the existing bicycle/pedestrian trail system in place. These efforts should continue.

Policy T-2.7

Maintain a Pedestrian-Friendly Environment.

It is extremely important for the City to work to insure its ability to obtain whenever feasible the most efficient, most flexible, pedestrian access to important community destinations.

Implementing Actions:

2.7.a Retain parkstrip and street tree planting requirements in residential areas.

Parkstrips offer distance from a street and thus a degree of security to a pedestrian. This is particularly important for younger children, especially those who may be actively engaged in an activity such as bicycle riding, roller skating or skateboarding. Street trees increase the feeling of security, help air quality, and the overhead canopies they form across residential streets are a strong aesthetic encouragement to pedestrians.

2.7.b Locate streetlights, street signs, fire hydrants, and other obstacles so they do not obstruct sidewalks and other pedestrianways.

It is important to keep pedestrianways/sidewalks clear of any intruding city equipment. (The American with Disabilities Act requires a minimum of four feet of unobstructed width.) This is another reason for making sure that sufficient rights-of-ways are obtained to match not only current but prospective traffic demands, in order to avoid future street expansions that leave too little room for sidewalks.

2.7.c Continue to require corner curb cuts to accommodate wheelchairs.

This is a federal and State requirement. The City of Merced has also incorporated the provision into its design standards. These curb cuts also assist baby strollers and carts.

2.7.d Work to maintain safe and convenient streetscapes for pedestrians.

This is especially important in the downtown and other urban areas that attract significant amounts of pedestrian traffic. The City has been involved with activities that serve as examples of what can be done, such as increased non-motor-vehicle police presence and the use of citizen volunteers.

2.7.e Continue to require sidewalks and pedestrianways for subdivisions and other development projects.

The City requires the provision of sidewalks in all new residential and commercial developments. This requirement should be maintained.

2.7.f Continue to encourage safe and convenient pedestrian environments in the downtown and other areas that attract a great deal of pedestrian traffic.

The City has been involved with activities that serve as examples of what can be done, such as increased non-motor vehicle police presence and the use of citizen volunteers.

2.7.g Continue to encourage the provision of plazas, malls, arcades, and walk-throughs.

These can be important pedestrian links in high-traffic areas that are visible and can be maintained.

2.7.h Encourage the planting of shade trees and, as a minimum, plan for the prospective establishment of rest areas with seating facilities along major pedestrianways.

These facilities can be important for making an inviting pedestrian environment. If such facilities are not feasible at the time of initial planning of such areas, flexible designs should be created that would facilitate later re-design/reconstruction at minimum cost in the future.

2.7.i Continue to review and evaluate possible options for dealing with the issue of incomplete pedestrian access to development projects that will be major pedestrian destinations.

State of California provisions require access for the elderly and handicapped to public use facilities (such as government buildings) and privately funded facilities intended for public use (commercial establishments, etc.). City design standards require on-site sidewalks for individual development projects. In recent years development of some major projects in growth areas that are not fully built out have resulted in the problem of large segments of missing sidewalk. These missing segments, while not located on project property, have invariably been on the most direct pedestrian/bicycle route to or from the major pedestrian destination.

Policy T-2.8

Improve Planning for Pedestrians.

Providing a pleasant pedestrian environment can often be achieved with very little cost or effort, but it is often overlooked when overall circulation needs are evaluated. By making planning for pedestrian access an integral part of the circulation planning process, significant enhancements to pedestrian access within and around Merced's neighborhoods can be accomplished. Significant air quality benefits can be derived from promoting pedestrian-friendly environments.

Implementing Actions:

- 2.8.a Seek to provide more flexible, more usable pedestrian access opportunities to land uses and land use combinations that are prospective pedestrian destinations (sports club facilities, schools, government facilities, parks, public open space areas, etc.).**

Examples include both public and private facilities. Schools, parks, trail systems and government centers are all activity areas that could be greatly enhanced by having one or more connecting pedestrian links to a nearby street(s), trail system, etc. A special case commercial example might be an athletic or sports club that could experience greater foot or bicycle traffic if made more accessible to other than motor vehicle traffic. Obvious prospective destinations such as commercial centers are often walled off from all direct access except motor vehicles using major streets.

- 2.8.b Evaluate the future need for sidewalks in business parks and industrially-zoned areas.**

Increasing regional air quality problems are leading to requirements that make major job centers such as industrial areas more logical destinations for public or other forms of collective transit. This in turn may lead to a greater need for pedestrian distribution within these areas. An evaluation should consider any efficient and potentially cost-effective options.

- 2.8.c Continue to review land use and project proposals with the intent to avoid pedestrian barriers that prevent, or create unnecessarily circuitous, access to community and commercial areas.**

It is important to continue to seek enhanced pedestrian access to major destinations such as shopping centers, schools, recreational areas, etc. **Figure 4.26** shows how the College Green Shopping Center as built on the left with good pedestrian circulation and how it could have been built on the right with little pedestrian access.

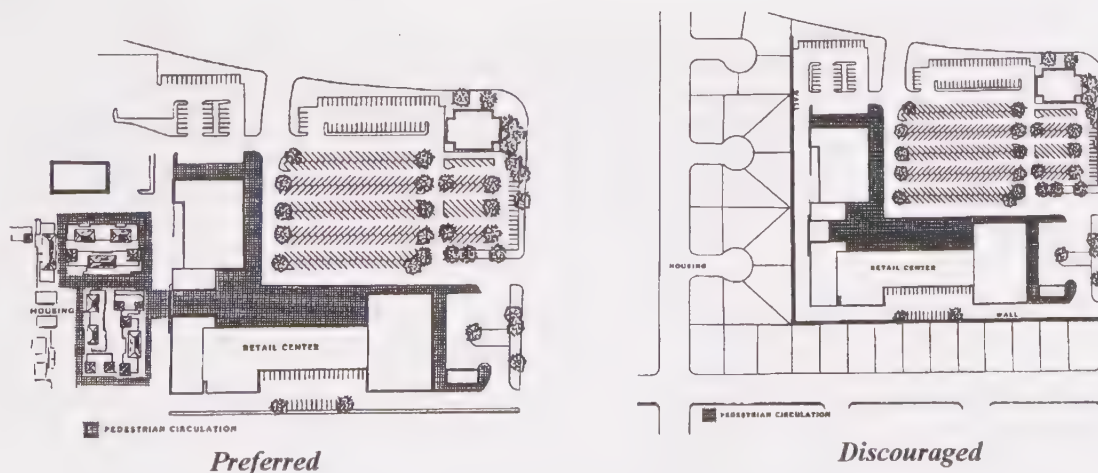


Figure 4.26

Policy T-2.9

Ensure That New Development Provides the Facilities and Programs that Improve the Effectiveness of Transportation Control Measures and Congestion Management Programs.

State and federal legislation requires local government to include strategies to increase the efficiency of transportation infrastructure and to reduce vehicle trips in their transportation plans. Transportation control measures are most effective when infrastructure is in place that supports alternative transportation modes. This would include community-wide transportation improvements and on-site improvements at individual worksites and businesses. The City of Merced can support these strategies by encouraging developers to construct infrastructure that reduces congestion and/or trips.

Implementing Actions:

2.9.a Consider measures to increase the capacity of the existing road network prior to constructing more capacity (additional lanes, new freeways, etc.).

Measures that may be included in local and regional transportation plans and capital improvement plans that may increase the capacity and reduce congestion on existing roads include the following:

- Establish an integrated and synchronized traffic signal network for major thoroughfares to assure smooth-flowing traffic through intersections and to minimize congestion through maintenance of stable traffic flow at intersections.
- Convert congested streets to one-way couplets where it would improve traffic flow and congestion.
- Modify intersections using turn restrictions, channelization, etc. where necessary and feasible.

2.9.b Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives.

Encourage new development to provide on-site facilities that encourage employees to use alternative transportation modes as air quality and transportation mitigation measures. Some examples include:

- Showers and lockers provided in office buildings
- Safe and secure bicycle parking areas
- On-site employee cafeterias and eating areas
- Convenient access to transit waiting areas from offices

The City may provide reduced parking requirements as an incentive for projects to incorporate measures proven to reduce employee commute trips or customer trips.

Some methods developers/employers may use to encourage trip reduction and increased Average Vehicle Ridership include:

- Rideshare matching, transit subsidies, vanpool subsidies, flexible work schedules, compressed work weeks, telecommuting, shuttle services, parking management, and guaranteed rides home
- Encouraging employers to provide preferential or subsidized parking for ride-sharing vehicles
- Providing land use patterns and site designs that increase commuters ability to walk, bicycle, or use transit to get to work

Goal Area T-3: Air and Rail Service

GOAL

- **Air and Rail Systems that Provide Safe and Convenient Service to the Community**

POLICIES

AIR

- T-3.1** Preserve the municipal airport and its protective zones from incompatible encroachment.
- T-3.2** Promote and encourage the orderly and timely development of commercial and general aviation facilities.
- T-3.3** Provide adequate ground transportation systems that complement air transportation facilities.

RAIL

- T-3.4** Reduce rail system impacts on circulation within the urban area.
- T-3.5** Support enhanced railroad passenger service for Merced.
- T-3.6** Retain and expand as needed rail facilities serving industrial development.

Policy T-3.1 AIR

Preserve the Municipal Airport and its Protective Zones from Incompatible Encroachment.

The City has worked for many years to provide protection of its airport. As the urban area expands, it is likely that growth pressures may increase in the general area of this facility. In addition to growth itself, the promotion of Castle Airport Aviation and Development Center and the pending development of the University of California offer possibilities that may change the future of the airport in ways completely unforeseen. It is important to retain an unencumbered facility in order to maintain necessary options for the future.

Implementing Actions:

- 3.1.a Continue to protect the viability of approach areas and control zones for both existing and future runway systems through land use restrictions and property acquisition where necessary.**

The City should continue to review opportunities that may arise.

- 3.1.b Carefully review any zone changes or development proposals within the general area with special regard to identifying and evaluating possible long-term consequences upon the airport.**

The City should apply the comprehensive planning process to any proposed development in the general area, taking care to look at any development proposals in terms of both present and future impacts on airport operations.

- 3.1.c Continue to work with Merced County to retain low-intensity, compatible County zoning in the vicinity of the Airport Clear Zone, to avoid an increase in land use pressures.**

This appears to be the most effective way to continue long-term protection of the facility.

(Notes: Additional policies regarding the airport clear zones can be found in the Safety Element, Chapter 11.)

Policy T-3.2 AIR

Promote and Encourage the Orderly and Timely Development of Commercial and General Aviation Facilities.

This needs to be carefully reviewed on a periodic basis, as urban growth continues, Castle Airport Aviation and Development Center develops, and planning for the University of California continues.

Implementing Action:

- 3.2.a Implement the Merced Municipal Airport Master Plan and update as necessary.**

The Master Plan, adopted in 1991, outlined the course for long-term development of the Merced Airport. It concluded that the existing airfield would meet the needs of the community for the next 20 years, and thus focused on refinements to existing facilities and the preservation of options for future development. This master plan should be updated as circumstances regarding regional air traffic (the development of Castle Airport Aviation and Development Center, the possible elimination of the Essential Air Service, etc.) bring about changes in the mission of the Merced Airport.

Policy T-3.3 AIR

Provide Adequate Ground Transportation Systems that Complement Air Transportation Facilities.

Circulation planning in the general area needs to keep transportation needs of the airport and its adjacent industrial area firmly in mind.

Implementing Action:

- 3.3.a** As development in the area around the Airport takes place, consideration should be given to providing transit and truck access to airport facilities.

Good transit and truck access to the Airport and its surrounding industrial areas is necessary to maintaining an economically-viable facility. Enhanced access from State Highways 99, 59, and 140 to the Airport area should be a high priority in this regard.

Policy T-3.4 RAIL

Reduce Rail System Impacts on Circulation within the Urban Area.

The City needs to continue to review and evaluate possible ways to reduce impacts of the rail system on the City's circulation efficiency. The two sets of railroad tracks which bisect the community make cross-town trips more difficult given the limited number of crossings.

Implementing Actions:

- 3.4.a** Review land use decisions in the vicinity of major at-grade railroad crossings to avoid the creation of unnecessary land use and circulation conflicts within areas that already experience special problems.

When feasible any land use decisions in these areas should be evaluated in an effort to see if any prospective future conflicts, such as traffic signal and driveway locations, can be reduced or mitigated.

- 3.4.b** Continue to seek approval of additional at-grade railroad crossings in the urban area.

Public Utility Commission (PUC) regulations are very stringent and it is quite difficult to obtain approval for new at-grade rail crossings. This creates a real handicap to urban areas, and especially to those areas that are experiencing significant growth like Merced. It is important to continue to pursue PUC approval of additional rail crossings for the Merced urban area, including two (Parsons Avenue and Mistwood Drive) that have been sought for many years.

- 3.4.c** Continue efforts to develop a centrally-located, cross-town, separated-grade railroad crossing.

The City should continue to work towards the provision of a centrally-located separated-grade railroad crossing which would provide uninterrupted emergency access across Merced from north to south. Once the most important and cost-effective candidate is determined, the City should pursue its construction or its conversion to a separated-grade facility if it is currently an at-grade facility.

- 3.4.d** Continue to communicate with railroad companies relating to traffic stoppage situations.

Attempt to work with the rail companies to reduce as much as feasible conflicts that currently develop between trains and waiting vehicles at the City's existing at-grade railroad crossings, particularly during peak-hour traffic times.

Policy T-3.5 RAIL

Support Enhanced Railroad Passenger Service for Merced.

The City should work to keep all options available to Merced for future passenger service improvements in the Central Valley.

Implementing Actions:

3.5.a Support efforts to extend existing rail passenger service directly to both Los Angeles and Sacramento.

This would make rail service more convenient for passengers using the service from Merced and other Central Valley communities.

3.5.b Support efforts to provide high speed rail passenger service to the Central Valley including a stop in Merced.

Such service would offer enhanced rail opportunities for Central Valley communities. A stop in Merced would be very desirable. As further details become available, the City will work with involved agencies regarding preservation of right-of-way and possible station locations.

3.5.c Study, as an outgrowth of independent efforts to resurrect some form of rail service from the Central Valley to Yosemite National Park, possible options for connecting Merced to such a rail system.

Any possibility of rail service being resurrected to Yosemite National Park would be a huge opportunity for any communities in this portion of the Central Valley. Because of Merced's historic connection with rail service to Yosemite, it is important for Merced to remain aware of this effort and to be ready to become involved in any serious consideration of such a project. The preservation of appropriate right-of-way could be considered once a route is determined.

Policy T-3.6 RAIL

Retain and Expand as Needed Rail Facilities Serving Industrial Development.

Two industrial areas (the Western Industrial Park and Santa Fe Industrial Park) currently offer access to rail connections, and it is important for these facilities to remain available as long as this is a viable industrial service.

Implementing Action:

3.6.a When feasible seek to retain the availability of industrially-designated land in proximity to railroad tracks for industrial activities that actually require rail service.

Additional industrial land adjacent to the Western Industrial Park and Santa Fe Industrial Park is designated on the Land Use Diagram.

4.7 ISSUES REQUIRING FURTHER STUDY

As Merced grows, it is not surprising that circulation/transportation issues and concerns, and the planning related to these matters, becomes more complicated. Because of increasing constraints (financing is a good example) the time-frames within which issues are projected to be addressed are also expanding in many cases. Under these circumstances some important issues may be identified during the general plan process that require evaluation beyond that available within the constraints of the plan preparation. Some of those issues have already been identified and are described below.

4.7.1 Access to the University of California (UC)

Access to the University of California site northeast of Lake Yosemite will need to be carefully studied as part of the joint City-County planning efforts described in the Urban Expansion Chapter (Section 2.6.1). Consideration will be given to which circulation options might provide optimum access to the UC site (depending on where the majority of the traffic will be coming from) while at the same time most efficiently serving the City's northern growth area.

4.7.2 Beltways

Need for Phasing the Prospective Beltways

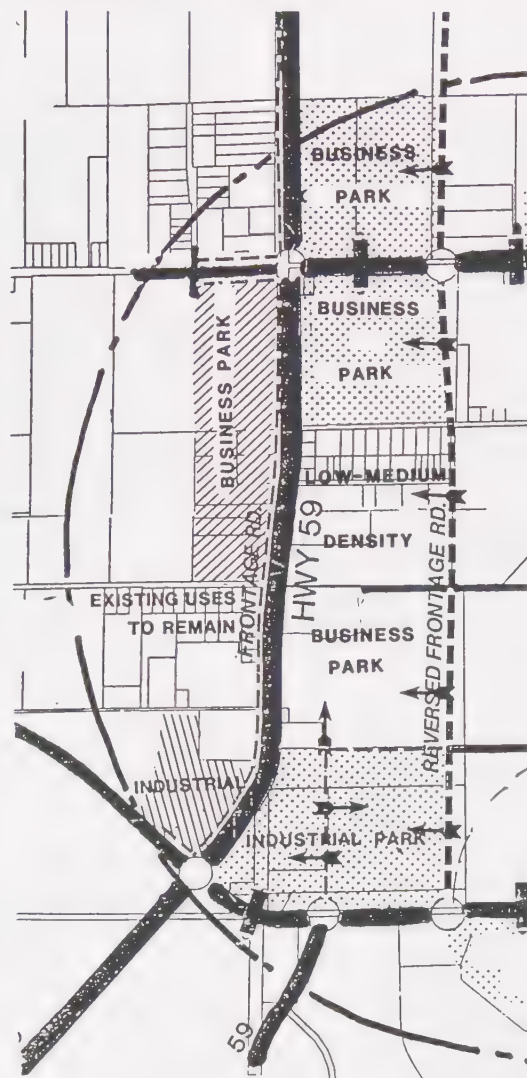
Fiscal constraints at all levels of government in recent years continue to suggest that it will be feasible, at best, to build only one beltway in proximity to Merced's current urban area within the foreseeable future even though there is a need for both. It is, therefore, very important to thoroughly evaluate the phasing of the two beltways.

The effectiveness of the routes as access to the future UC campus needs to be compared, in terms of travel distance, possible barriers, and relative time and cost. Benefits to the City's future circulation needs should be evaluated as well. Infrastructure requirements need to be compared, as well as potential environmental considerations and other factors that can be identified through such a process.

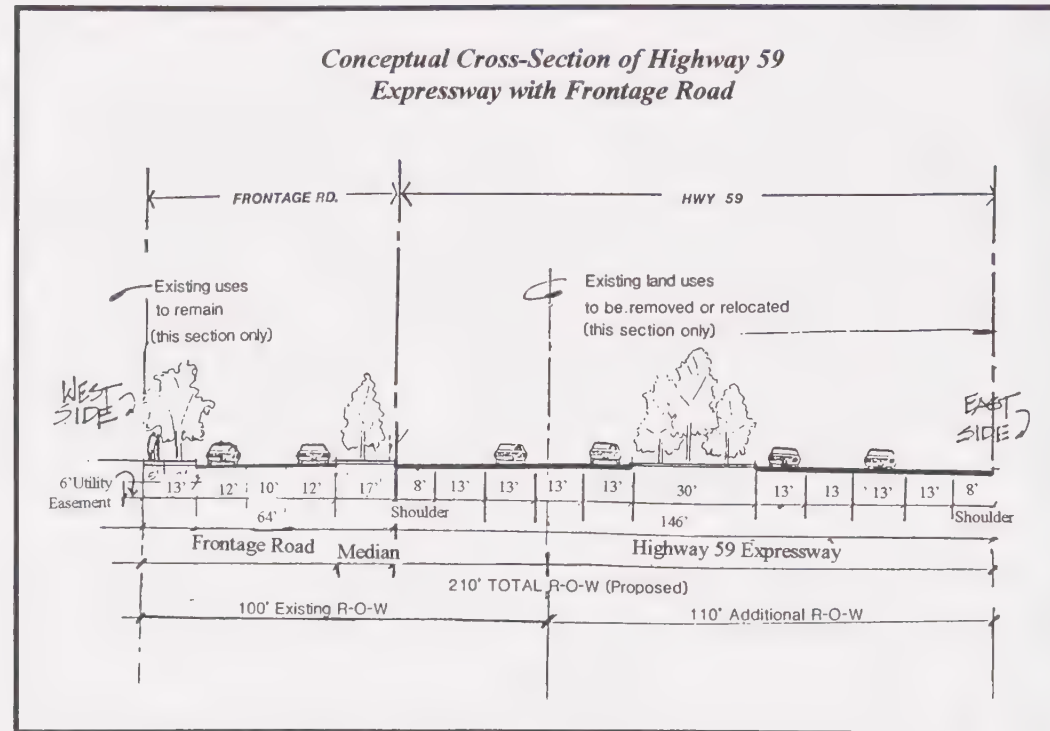
Highway 59 (Western) Beltway

The Highway 59 or "Western Beltway" portion of the prospective regional Beltway System was the system's initial component. The concept of a Highway 59 "By-pass" has been identified in growth and circulation studies adopted by the City for many years.

This "by-pass" is intended to provide a needed route for carrying traffic from the City's northern growth areas around rather than through much of the established portions of the community. Beltway traffic would have access to existing central commercial areas or to the state highway system for distribution to regional destinations.



Plan View of Highway 59 Expressway
with Frontage & Reverse Frontage Roads
(Conceptual)



Note: These designs are conceptual only.
Highway 59 will need to be designed to
meet Caltrans standards. Detailed cross-
sections will be developed as part of the
Project Study Report.

Figure 4.27

Highway 59 Expressway

(Frontage & Reverse Frontage Roads)



Merced Planning Department
2015 General Plan

Mission Avenue (Eastern) Beltway

During the mid-1990's, the Merced area (Lake Yosemite) became one of the finalists for the prospective 10th University of California (UC) campus. In this connection there was renewed interest by the City and County on a long-time Caltrans agreement for a prospective Highway 99 interchange in the general area around Mission Avenue. This future interchange became the foundation for an "Eastern Beltway" that could offer access to the campus.

As a result of subsequent study (City of Merced Eastern Beltway Alignment Alternatives Analysis and Circulation Plan, Korve Engineering, 1994) a total of three possible eastern beltway corridor location options have been identified, each connecting the general area of Mission/99 to the proposed UC site. All three prospective north-south corridor routes lie within a one mile area, bounded by Lake Road/Lake Road (extended) and Kibby Road/Kibby Road (extended). It is important to identify and protect a prospective route to the UC campus.

Additional Beltway Studies

59 (Western) Beltway Very preliminary design work has been done to identify a design concept that could be used along the proposed Highway 59 Beltway (Expressway) Corridor. The Highway 59 area is shown on the land use diagram as a major employment corridor with many proposed commercial and industrial uses which will need access.

To address these access needs, while tightly controlling direct access to a future expressway, one option is use of a frontage road (within the western portion

of the existing Highway 59 right-of-way) to provide direct access to adjacent properties west of the current highway (*Figure 4.27*). In addition, there would be an overall expansion of the corridor right-of-way to accommodate the expressway, coupled with a reverse frontage road one-quarter mile east of the corridor to provide access to properties on the east side of the expressway.

As noted above, these concepts for Highway 59 are very preliminary. More detailed work with Caltrans needs to be done on the proposed Highway 59 Expressway before it can be funded and constructed. One such important step is the development of a Project Study Report. This report would address alignment, scope, preliminary engineering, needed right-of-way, cross-section design, access restrictions, frontage road configurations, and costs of expressway alternatives. After this report is completed, a plan line could be adopted in order to preserve necessary right-of-way for the project.

For a number of reasons, including the large number of existing land uses in this area and the proposed intensity of future land uses along this entire corridor, it is very important to refine the corridor design to a level that will allow continuing development without creating significant conflicts with the future beltway.

Eastern Beltway Corridor Using the existing study (1994-95) of possible beltway corridor options as the basis, complete a process with the County and MCAG of designating a preliminary eastern beltway location on the City and County Circulation Plans.

4.7.3 Highway 99 Merced-Atwater Corridor Major Investment Study

Merced, Atwater, and Merced County along with Caltrans participated in a study of needed improvements to the State Highway system in the Merced-Atwater area (*Figure 4.28*), prepared by the Merced County Association of Governments (MCAG). This evaluation, known as the "Highway 99 Major Investment Study" or MIS (and formerly known as the "Highway 99 Corridor Study"), forecasts growth in this area through 2020. A transportation model, based upon this forecast and present land use assumptions, analyzes transportation alternatives and develops potential financial strategies for implementing recommended corridor improvements.

Expansion of Highway 99

During the MIS, Caltrans introduced the regional issue of how Highway 99 should be expanded in the future--via expansion of the present corridor or creation of an alternative freeway corridor.

Several possible options are under consideration: 1) a system of expressways to the north of the City; 2) a by-pass to the south of the City; and 3) widening of the existing Highway 99 corridor through the community to accommodate six or eight additional lanes (as well as possible combinations of the three).

The northerly by-pass would consist of expressways taking traffic north of Merced and the UC Campus at Lake Yosemite via Arboleda and La Paloma Roads, then continuing north of Castle and Atwater and eventually meeting up with the existing Highway 99 alignment on the west side of Atwater.

The southerly by-pass as currently visualized would basically parallel the existing Mission Avenue and Thornton Road routes south and west of the City, respectively. This option would have only a limited number of interchanges (such as at Henry Road, South Highway 59, and Highway 140).

There are two options for adding more traffic lanes (six or eight) to the existing Highway 99 corridor through the City of Merced. Six lanes can be accommodated within the existing right-of-way. Major upgrades and modifications to existing City streets and interchanges would be needed with this option, however. It is likely six lanes would be needed even with the expressway or by-pass options.

This six-lane option would also include upgrading 13th and 14th Street to collector streets of 3 lanes each. 13th and 14th Streets would form a one-way couplet with 13th serving eastbound traffic and 14th serving westbound (described in Section 4.4.7).

Additional right-of-way would be needed if expansion is to eight lanes. This option could impact adjacent businesses and homes as well as necessitate major reconstruction and possible elimination of existing interchanges along the present alignment.

The MIS is also examining improvements to City streets that feed into the regional circulation system that will serve the UC campus, Castle, and other important regional destinations. The MIS process is expected to be completed in mid-1997. Once the study is adopted, the City will amend this General Plan to conform to MIS improvement standards, and implementation strategies.

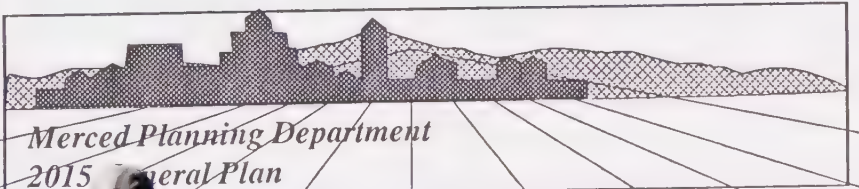
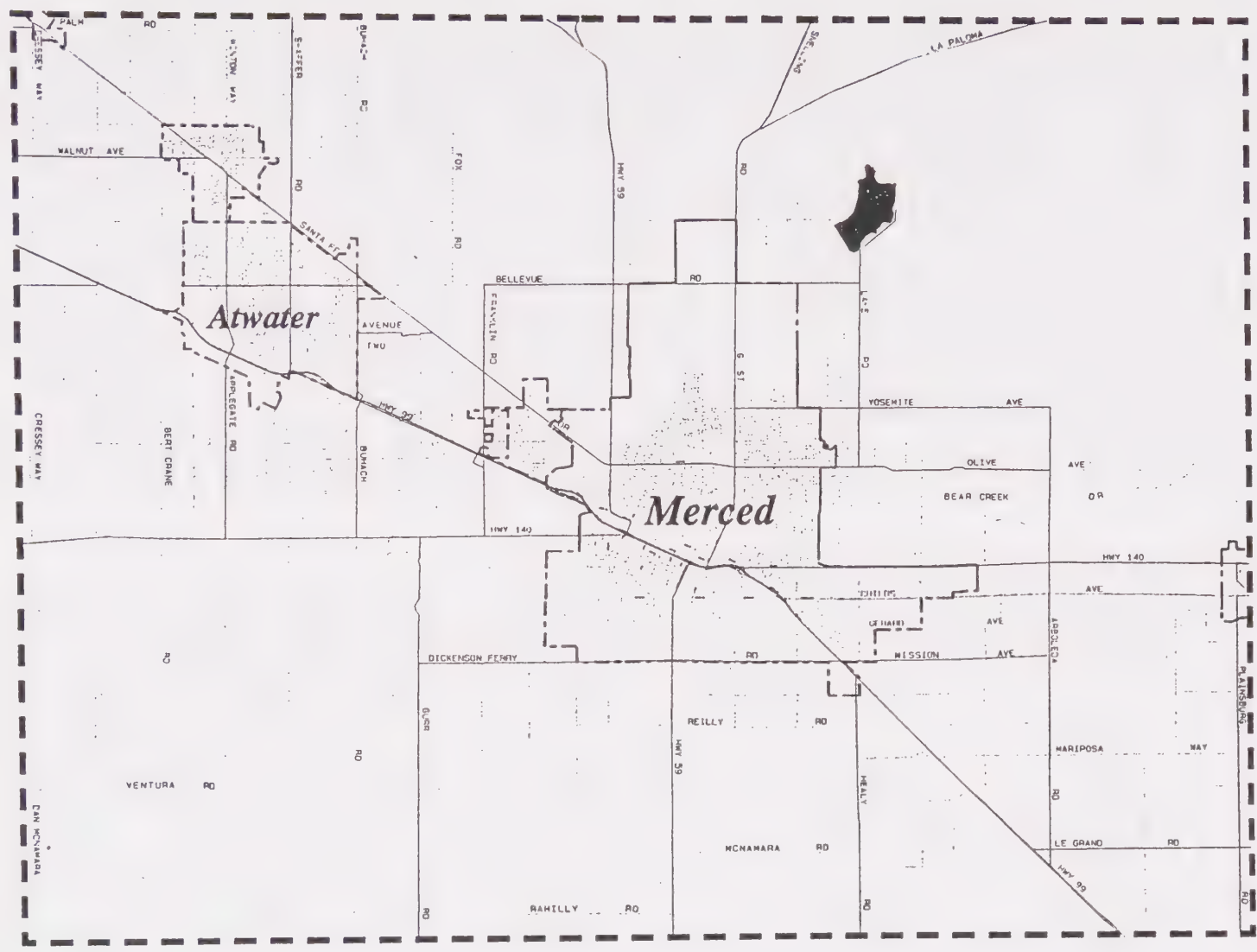


Figure 4.28

Highway 99 Corridor Study Area

4.7.4 Willowbrook Area Circulation Plan

It is anticipated that certain areas of the City will come under particular circulation pressures in the foreseeable future because of changes that have taken place and growth pressures that have appeared in the past few decades. A prime candidate is the area within western Merced identified as the Willowbrook area, along with a number of adjacent sub-areas that share particular circulation problems and concerns (*Figure 4.29*).

Considerable construction has taken place within this area in recent years and buildout is anticipated in the foreseeable future. It is also expected that traffic will continue to increase significantly on Highway 59 between 16th Street and West Olive Avenue. Increasing industrial traffic to the Southern Pacific Industrial Park (west of Highway 59) can be expected to contribute to this traffic growth.

Another major factor could be the need for an enhanced near-term connection to and from Highway 99 for increasing cross-town traffic from the community's northward expansion area. Even if the Highway 59 By-Pass (Western Beltway) is given high priority status by necessary public agencies, planning and funding for this project will require a time-frame expected to extend many years in the future. The area in proximity to the 16th Street/Highway 59 intersection, including the existing nearby access points to Highway 99, may offer the best opportunity for improving interim access.

Circulation in this general area requires further study. As a minimum future options for the vicinity of the Highway 59/16th Street intersection, and related impacts on the surrounding area, need to be evaluated. Such a study would also provide an opportunity to review any alternatives that might exist for providing more circulation options for the residential areas on both sides of Bear Creek in this area.

4.7.5 Expanded Off-Street Bicycle Plan

Merced City and County have developed an extensive off-road pedestrian/bicycle trail system (*Figure 4.10* in Section 4.3.8). Much of this system has been planned and constructed along several creeks flowing through portions of the Merced region.

Because the creeks are located primarily in the City's northern portion, off-street trails are concentrated here. To create an attractive and usable extension to this system into other community areas will be a particular challenge because of the lack of natural waterways. Rights-of-ways for irrigation canals provide one opportunity.

Special care needs to be taken to obtain workable segments for such a system from any major future projects. Neighborhood garden sites could offer a way to involve the public in creating an attractive setting. A key to this will be developing a plan that, as a minimum, identifies what resources might be available for such an off-street system throughout the community.

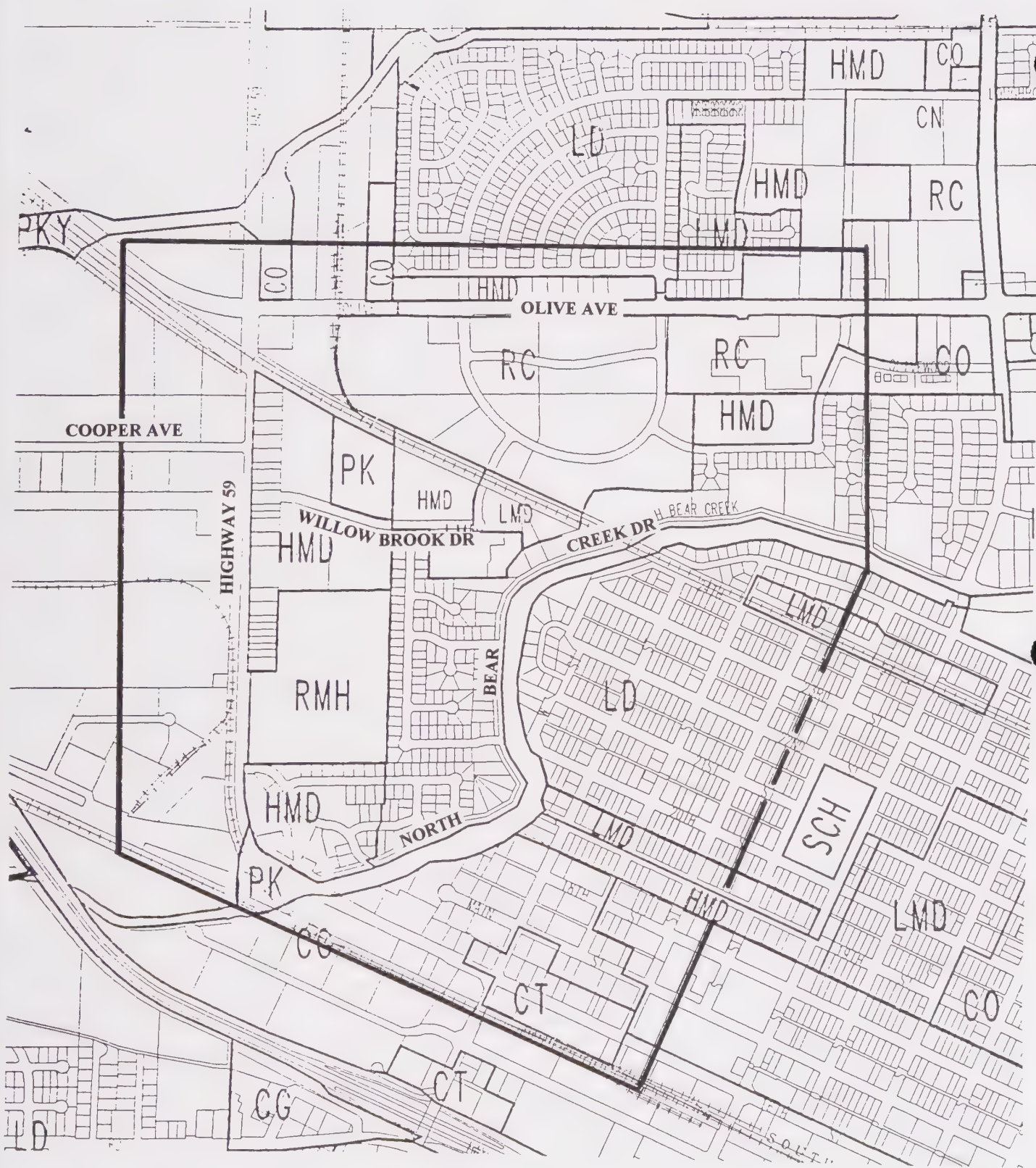


Figure 4.29

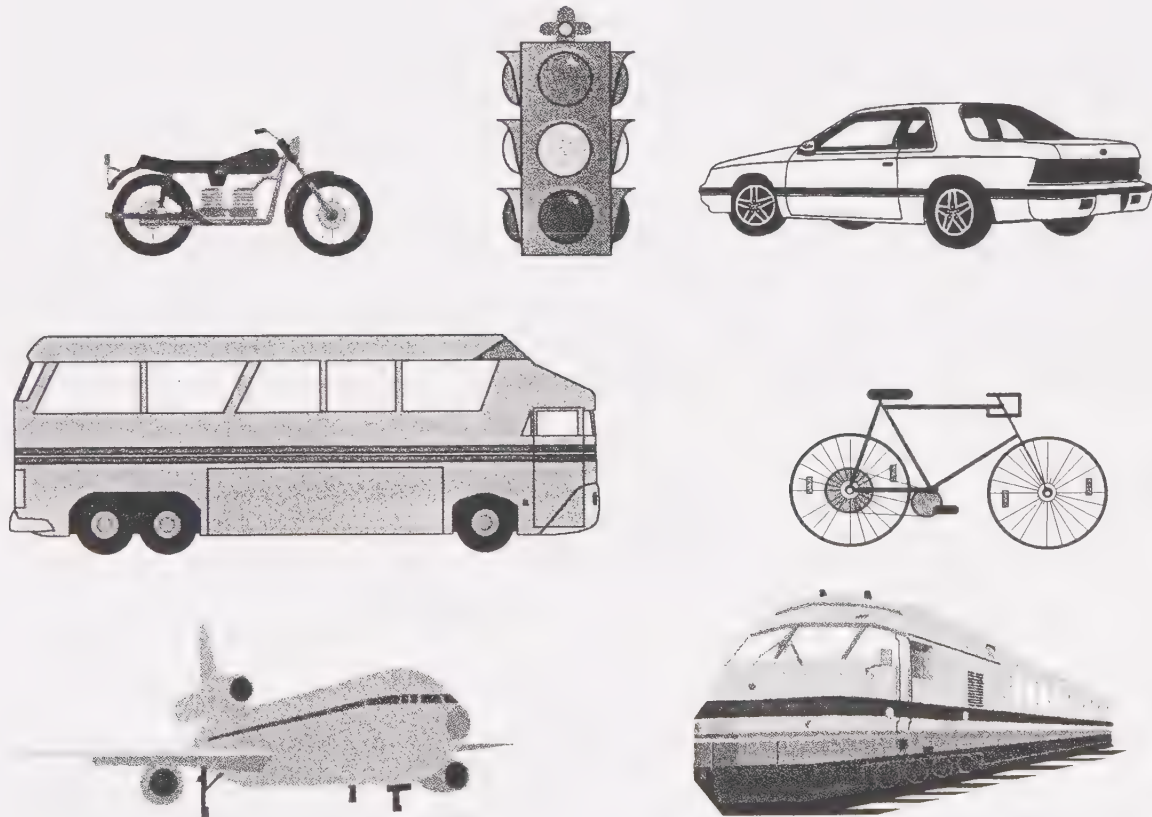
Willowbrook Circulation Study Area



4.7.6 Financing Circulation Improvements

A major part of the overall Public Facilities Financing Plan (discussed in Section 5.5.1 of the Public Facilities Chapter) is the timing and financing of needed circulation improvements. Various strategies for financing the construction of the major roadway projects are under consideration. (These projects are illustrated in *Figure 4.11* in

Section 4.4 and summarized in *Table 4.4* in Section 4.8.3.) These strategies may include use of gas tax money, state and federal grants, a transportation sales tax, assessment districts, construction of needed improvements by developers, and developer impact fees. This plan will be reviewed annually to make sure that the infrastructure priorities of the community are being met as Merced grows.



4.8 APPENDIX

4.8.1 Functional Road Classifications and Design Standards

Functional Classification

Functional road classification categorizes each existing street or proposed street according to its primary function. This creates a hierarchical system as the basis for establishing standards, designing streets, selecting necessary traffic control measures, establishing a priority for construction, and measuring the quality of movement. In many cases, this system will also define appropriate land uses, the intensity of development, and the location of public facilities. The City's classification system is based on functional categories used by County, Regional, State, and Federal agencies.

The functional classification of streets and highways rests on the following concepts:

- Streets and highways are classified into separate and distinct systems in accordance with their intended primary circulation purpose. Each system serves the movement of traffic and the access to property to a different degree.
- Street classification governs design standards and construction and improvement priorities.
- The City's circulation system must be coordinated with the networks of the State and County.
- All major streets and highways have continuity, logical termini, and adequate capacity to allow and provide a high quality of flow.

The functional classification system used in the Circulation Element and Map (**Figure 4.1**) divides all streets and highways into categories. **Table 4.3** and the cross-sections on the following pages summarize the characteristics of each roadway category. These are illustrative characteristics only. Official design requirements are found in the City of Merced's Standard Designs of Common Engineering Structures.

Bikeways

Class I Bikeways (Off-Street Bike Paths) are designed to serve corridors not served by streets and highways, to provide recreational opportunities, or to provide high-speed commute routes for bicycles. In Merced, such bikepaths are found along Bear, Black Rascal, Cottonwood, and Fahrens Creeks, and will be expanded along powerline easements, canals, and abandoned railroad corridors in the future. All bikeways are designed to meet Caltrans minimum standards. Class II Bikeways (Bike Lanes), which provide striped lanes for bicycles along streets, are included in the street cross-sections on the following pages.

Freeways

Freeways are major routes designed to carry large traffic volumes over long distances. Access is controlled, and grade separations and median strips are used to separate lanes of traffic moving in different directions. Through Merced Route 99 is a four-lane freeway, elevated from about the crossing of Bear Creek on the west, through the central part of the City, to the intersection of Childs Avenue in the southeast area of the City. Its capacity for average daily traffic (ADT) is approximately 55,000 to 60,000 vehicles. Route 99's role is interregional in character, carrying both the traveling public and serving as a vital commercial link carrying goods and produce to and from the community.

Expressways

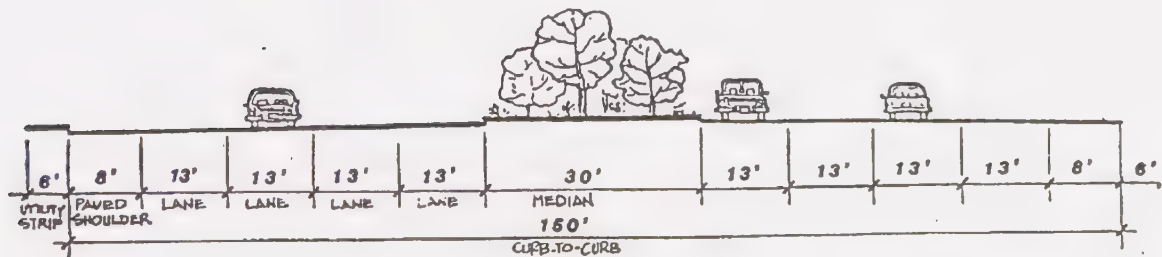
Expressways are roads designed to carry traffic volumes intermediate between freeways and major arterials. Opposing traffic is separated by wide medians, but speeds are usually somewhat lower than freeways. Access is fully controlled.

Expressways are designed to have cross-traffic only at signalized intersections with Arterials or higher order streets, located at approximately one-mile or greater intervals. Intersections may be separated or at-grade. In some cases, partially separated "urban interchanges" can be used.

The basic right-of-way (ROW) for an expressway is 150 feet. Currently, there are no roadways within the City built to expressway standards. A future link involving Highway 59/Western Beltway between Highway 99 and Bellevue Road is proposed as an expressway, but will likely require additional ROW in order to accommodate a frontage road on the west side to serve existing development which currently accesses Highway 59 directly.

Figure 4.30

Expressway Cross-Section



8-Lane Expressway

Major Arterials

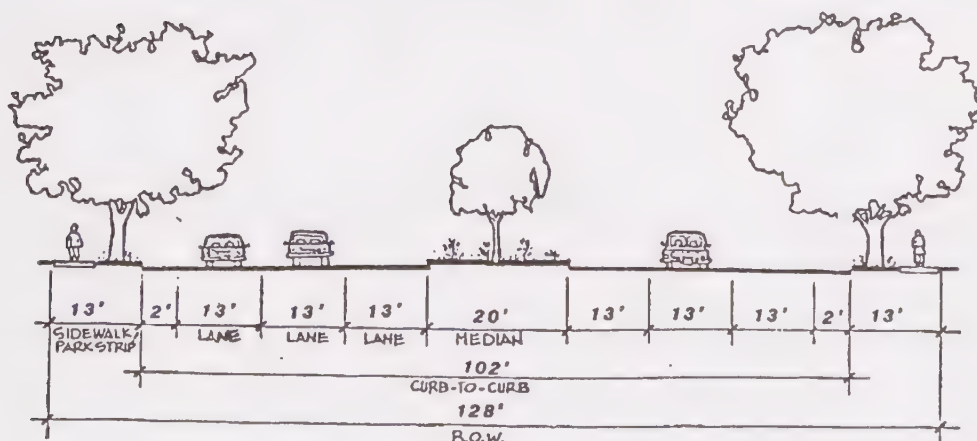
Major arterials are roads typically designed for new growth areas. They are intended to carry moderately heavy traffic volumes at moderate speeds on longer intra-city and cross-town trips, to regional destinations, and to State/Interstate routes for continuing longer trips. The extensions of “R” and “G” Streets north of Yosemite Avenue in the North Merced growth area are classified as “major arterials.” Access is controlled, crossings are at-grade.

There are medians between traffic traveling in opposite directions. Expanded arterial intersections are generally at every mile, where they intersect a divided arterial or higher order street (beginning with and north of Cardella Road in the North Merced growth area). Intervening intersections with collector streets may be permitted every one-quarter mile (right-turn-in, right-turn out movements only) and one-half mile (signalized four-way intersections with appropriate median break).

The basic right-of-way for major arterials is typically 128 feet. At 970 feet from standard arterials intersections, the basic right-of-way for the major arterial will typically begin expanding; the maximum curb-to-curb width of 150 feet will be reached for the final 400 feet approaching the major intersection, or as designed in those standards to be established in the City of Merced Standard Designs of Common Engineering Structures. Access to abutting properties is restricted to internal streets or frontage roads. Parking is prohibited. Capacity varies depending upon lane width, lateral clearance, and distance between intersections. Major arterials should be heavily landscaped to give them a parkway-type character and to identify their function to the driver. Bikeways are permitted on-street when the major arterials are four lanes, but are eliminated when they are widened to six lanes due to safety concerns.

Figure 4.31

Major Arterial/Arterial Cross-Sections



Major Arterial/Arterial

Arterial Streets

Arterial streets are identical to Major Arterials except for the possible allowance of additional intersections with intervening streets. Arterials are normally designed for new growth areas. Typically lying in a perpendicular direction to Major Arterials, Arterials are intended to carry potential heavier traffic volumes at lower speeds and often shorter distances than Major Arterials. Arterials collect traffic directly from a broad system of Village/Neighborhood collectors, for short trips (such as re-distribution to nearby Villages/Neighborhoods, to major and regional destinations that lie in proximity to the arterial) or for distribution to Major Arterials or other major streets for cross-town or longer trips.

Signalized intersections with collector streets may be allowed, with City approval, for cross-traffic at quarter mile and one-half mile locations (*Figure 4.3*). Arterials may also have intersections with local streets at intervening one-eighth mile intersections, to be allowed and designed at the City's discretion. While it is anticipated that initial traffic conditions may allow the City to accept more extensive, short-term turning movements, increasing traffic constraints will at some point require the City to limit such locations to fully closed medians, with right-turn-in, right-turn-out traffic movements only.

There is a tendency for the one-eighth mile locations indicated with an (*) on *Figure 4.3* to experience special conflicts, between traffic from the nearby Major Arterial intersections and local traffic entering and leaving these particular access points. Because of these unique conflicts, these two intersection locations may be required to provide special, added design features or may be prohibited.

Divided Arterials and Minor Arterials

Divided Arterial streets are designed to carry moderate traffic volumes at lower speeds than Arterials and Major Arterials. Divided Arterials, like higher order roadways, have medians to control cross-traffic. Presently, parts of Olive Avenue, "M" Street, "G" Street, and "R" Street are designed and function as divided arterials. The main function of divided arterials is to accommodate trips within the City, providing the basic transportation links between various land uses and major destinations, and other medium-distance movements. Separate turning lanes are usually provided and signals control major intersections. Expanded Arterial intersections are presently required on, and north of, Cardella Road for major street intersections such as expressways, major arterials, divided arterials, and other arterials.

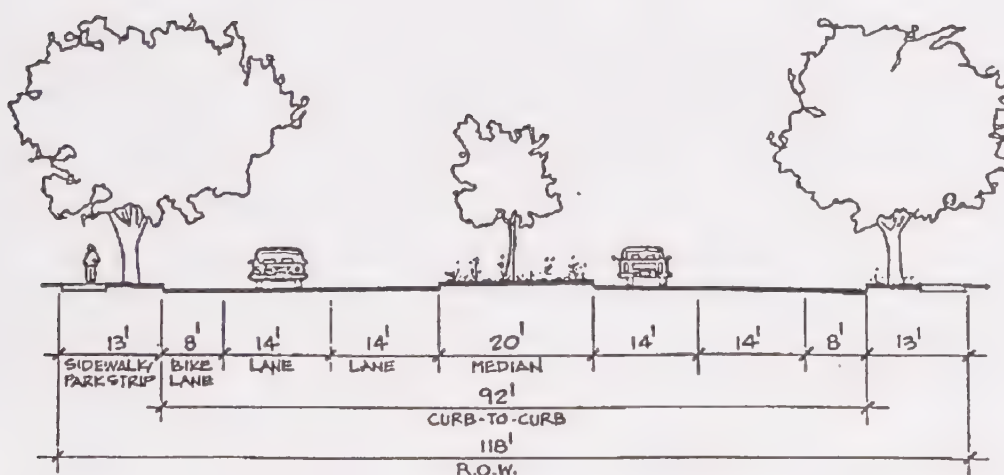
The basic right-of-way (ROW) for Divided Arterials is typically 118 feet, and each leg of the standard Divided Arterial intersection forms a curb-to-curb ROW of 138 feet for a length of 400 feet, and narrows to the basic ROW at 780 feet from the intersection, or is designed as found in those standards to be established in the City of Merced Standard Designs of Common Engineering Structures. Curb cuts for driveways are located away from intersections and limited to only essential access points. Restrictions may be placed

on entering and exiting. Curbside parking is not allowed in most cases. Turnouts for transit stops should be considered.

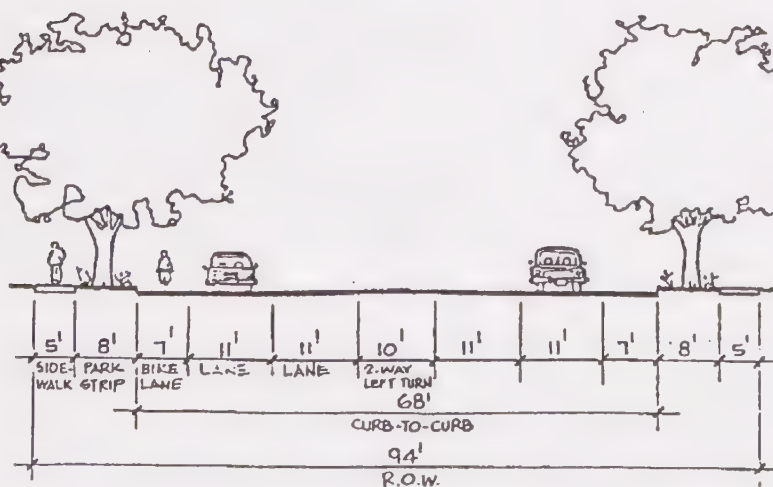
Undivided arterials (Minor Arterials) should have a right-of-way of at least 94 feet wide. Minor Arterials are often designated in older portions of the City, particularly in areas where trends such as changing land uses and increasing traffic require larger streets but existing development limits the amount of land available for street right-of-way. Landscaping and lighting should be designed to emphasize and identify the importance of the street.

Figure 4.32

Divided/Minor Arterial Cross-Sections



Divided Arterial



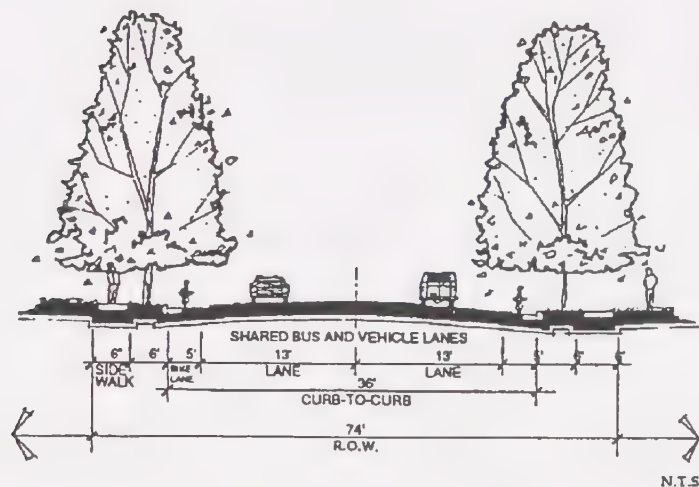
Minor Arterial

Transitways

A transitway is a special category of arterial street that is designed to accommodate a higher level of transit service than provided on standard arterial streets. They may be exclusive (for transit only) or may permit a mix of auto and transit vehicles. In newly developing areas, transitway segments that accommodate only local traffic (**Figure 4.33**) can be alternated with exclusive “transit-only” segments, as with various portions of M Street, north of Cardella Road.

Mixed transitways will accommodate two high-occupancy vehicle (HOV) lanes for express buses, two travel lanes for other vehicles, bicycle routes, and special landscaping within the cross-section for a divided arterial or major arterial/arterial (118 or 128 feet). New transitways should be designed to facilitate future conversion to a trolley or light rail system when volumes warrant it. In already-developed areas, transitways are usually mixed, with exclusive bus or HOV lanes designated for the curb lane within the existing rights-of-way.

Figure 4.33
Transitway Cross-Section



Collector Streets

Collector streets are designed to channel traffic from local streets into the major street system and to handle short trips within neighborhoods. They distribute and collect traffic which is generated in the area circumscribed by major streets. They provide for movement within industrial, commercial, and residential areas, or for connecting adjacent land uses. Speeds are generally low due to pedestrian activity and the frequent access to abutting land uses.

Collectors normally have just two lanes of traffic with right-of-ways up to 74 feet (except larger where a median strip is included). Parking may be prohibited in selected areas where the pavement width is needed for traffic capacity (or when certain design factors have been incorporated into the street design).

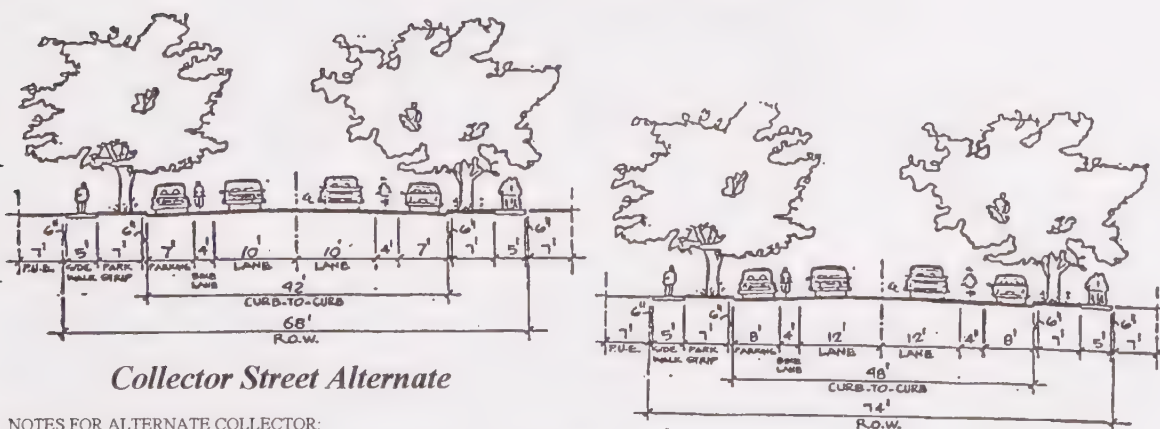
Examples of streets that originally were intended to fulfill the function of a residential collector in built-up areas of the community include Loughborough Drive, East Alexander Avenue, or East 21st Street. Often such examples illustrate the difficult functional balance expected of collectors -- to serve as a safe residential street within a neighborhood(s) while also acting as an efficient traffic conduit carrying an increasing number of vehicles to important destinations.

Major Residential Collector As feasible in new growth areas (and where possible within the existing street systems in built-up areas) the prospective Village Circulation concept (**Figure 4.35**) will identify and define a Major Residential Collector as a collector street 1) with 1,500 ADT or higher; 2) that is one-half mile or longer in uninterrupted length; 3) whose terminus is at an existing signalized intersection or at a higher order street whose intersection is identified for future signalization; 4) which is connected to other neighborhoods; and 5) is expected to be the recipient of traffic from outside its primary service area to access major destinations. (Uninterrupted length means no offset or similar interruption that would result in traffic being distributed to any significant degree to another route.) These streets where feasible shall not have lots either fronting upon them or accessing from them. There is no difference in ROW between a major collector and a residential collector.

Residential Collector A residential collector that does not meet Major Residential Collector status but does end in a signalized terminus at a major street (or whose terminus is intended for future signalization--**Figure 4.35**). If feasible, they should have no lots accessing them within 300 feet of the existing/future signalized intersection.

Figure 4.34

Collector Street Cross-Sections



NOTES FOR ALTERNATE COLLECTOR:

- 1) 68 feet of right-of-way may be permitted where supported by a traffic analysis to assure that the narrower street would not be overloaded. Analysis would include trip generation and distribution based on existing and future land use and circulation system. Additional width may be necessary at intersection where analysis shows need for turn lane(s)
- 2) Fronting lots would be permitted on collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions.
- 3) On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design.
- 4) A subdivision design with deletion of on-street bike lanes may be permitted if adequate, convenient Class I bikepath is available.

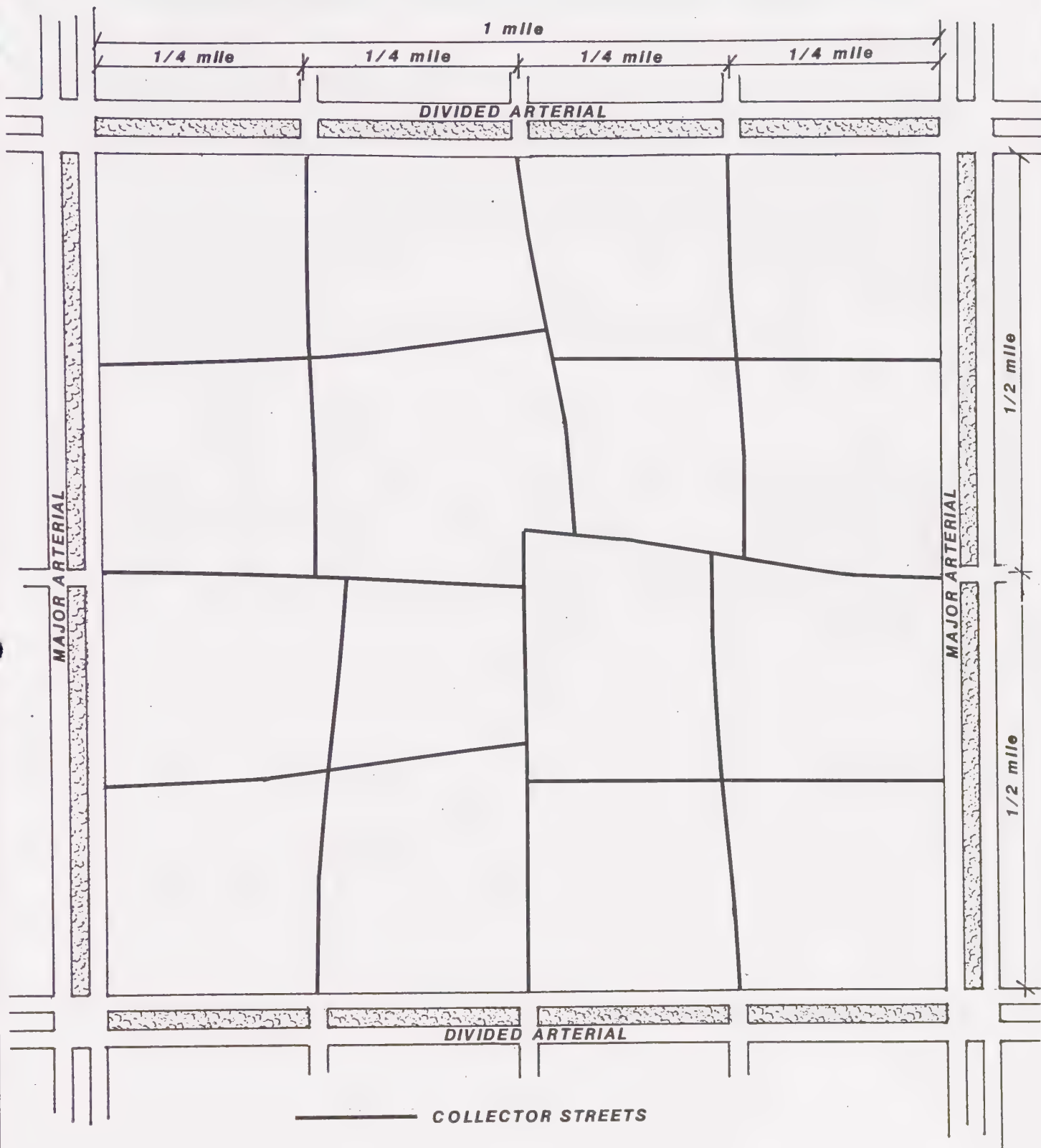
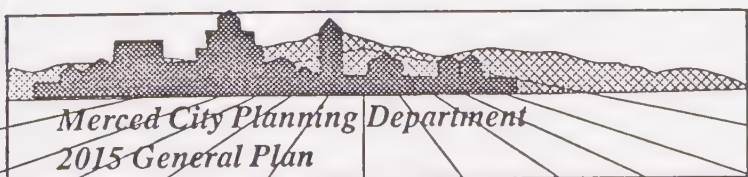


Figure 4.35

Conceptual Village Collector
Circulation System

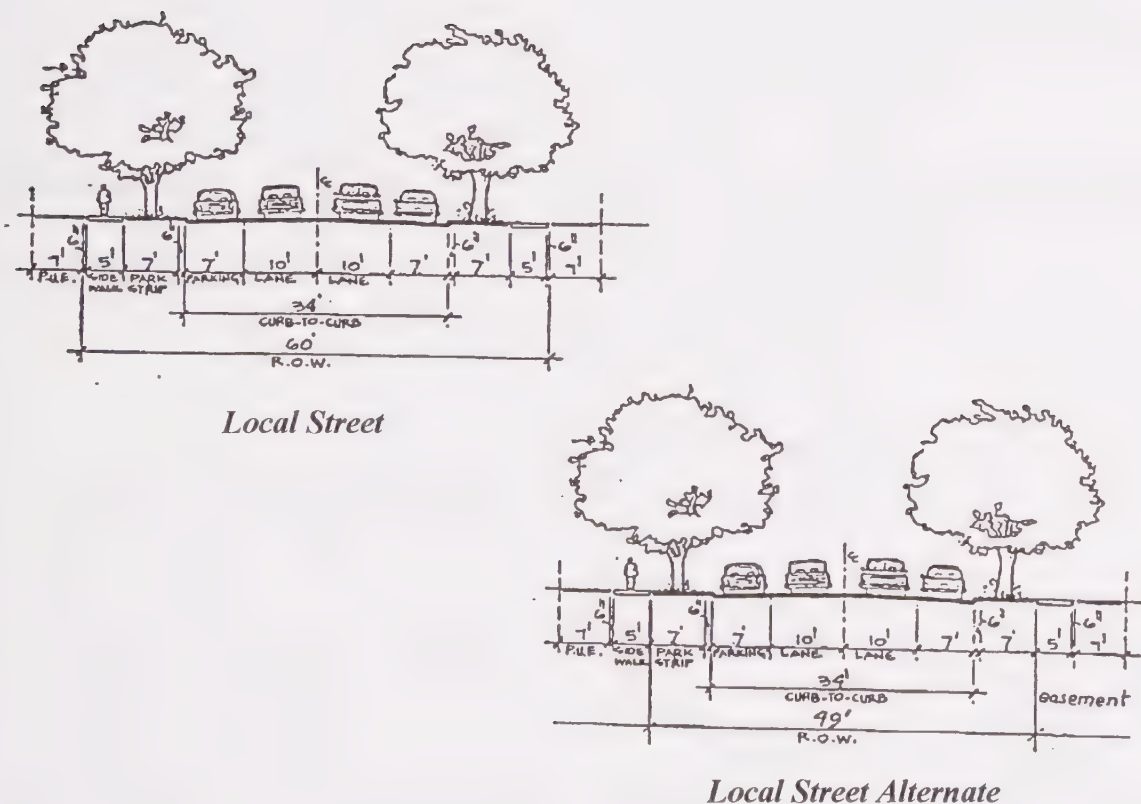


Local Streets

Local streets primarily provide access to destinations within residential neighborhoods or business districts. Local streets include local through-streets, local cul-de-sacs, and alleys. In residential areas, these are the streets upon which houses front and/or access. Therefore, it is important to eliminate through-traffic to a maximum degree by using cul-de-sacs, looped streets, and T-intersections. They should be designed to carry no more traffic than is required to serve the abutting land uses at low travel speed, and usually permit parking on at least one side.

Figure 4.36

Local Street Cross-Sections



NOTES FOR LOCAL STREET STANDARDS

1. The local street alternate places the sidewalk in an easement.
2. On-street parking may be deleted on local and cul-de-sac streets if adequate, convenient off-street parking is provided in a subdivision design.
3. 41 foot right-of-way (28 ft curb-to-curb) is permitted for a cul-de-sac up to 150 ft in length measured from center of bulb to right-of-way line of intersecting street.

Rural Roads

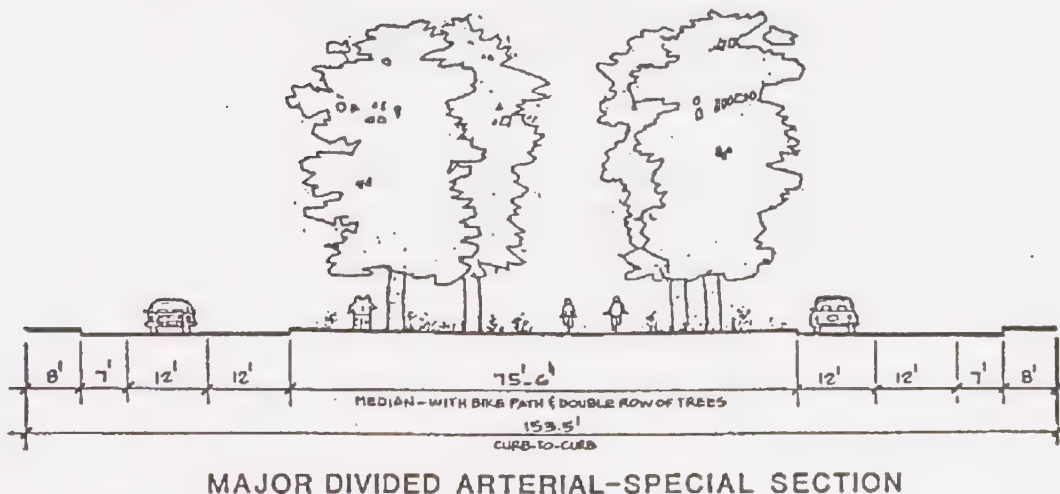
Rural roads may be arterials or major or minor collector streets, depending upon their traffic-carrying requirements, adjacent land uses, or special circumstances. Separate turning lanes, passing lanes, curbs, gutters, and sidewalks are provided only where necessary or when the area is planned for future urbanization. Design details may vary, but this type of road should reflect consideration of an existing environment and the future development of the area. In unincorporated areas that are within or adjacent to a city's Sphere of Influence or Specific Urban Development Plan (SUDP)/growth boundary, adequate right-of-way should be reserved, and direct access to a roadway should be restricted. At a minimum, adequate building setbacks should be required so that it is easier to widen roads when the area eventually develops to urban densities.

SPECIAL ARTERIAL, COLLECTOR, OR LOCAL STREETS

These are special streets which do not use normal design sections. These streets are designated where conditions warrant special designs, such as absence of curb and gutter adjacent to permanent agricultural areas, insufficient right-of-way, State highway needs, physical boundaries, or older existing neighborhoods. Variations in right-of-way width, curb-to-curb width, requirement of improvements, etc., may be permitted for these special streets. Several special street sections are discussed on the following pages.

Figure 4.37a

Special Cross-Sections



Note: Applies only to "M" street between Black Rascal Creek and the northern boundary of Merced College.

“M” Street

M Street needs a greater right-of-way to accommodate the preservation of existing trees in the center median area (*Figure 4.37a* on the previous page). “M” Street normally has 94-foot right-of-way because of its “arterial” status. However, a special street section from Black Rascal Creek to approximately University Avenue requires a width of approximately 153.5 feet to accommodate a larger center median area. This section of “M” Street is also designated as a scenic corridor.

North Bear Creek Drive

North Bear Creek Drive should be designated as a “special street” in order to maintain its status as a “Scenic Corridor.” This designation should apply from a point approximately 400 feet east of 16th Street, in the vicinity of Highway 59 (the point at which West North Bear Creek Drive turns northward away from Bear Creek), to McKee Road. North Bear Creek Drive is a roadway immediately adjacent to the Bear Creek open space corridor for the entire length of this designated area and, as such, is party to visual and acoustic opportunities rarely available to urban area dwellers except in special open space areas. This special atmosphere has, historically, been augmented by the proximity of large trees, forming a heavy canopy, and lush natural and maintained growth along North Bear Creek Drive.

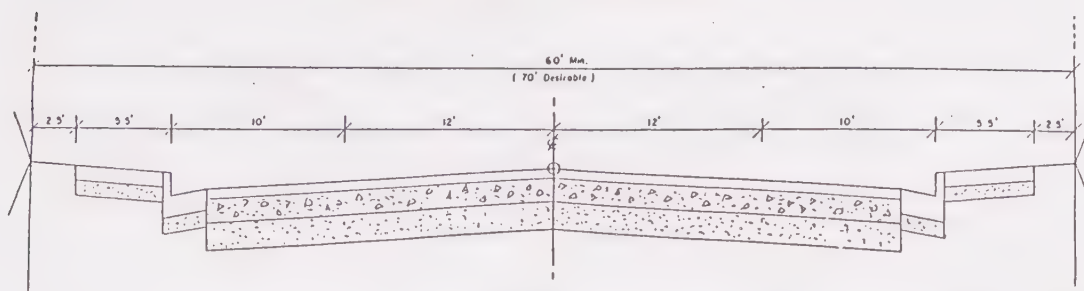
This semi-natural state has been possible because a number of typical urban roadside improvements (curb, gutter, sidewalks, streetlights, etc.) were not required along this corridor because nearly all of the development was constructed when this area was outside the City. An irrigation canal is present along with side berms on both sides, which are often heavily planted and in close proximity to the roadway. This would be not likely if traditional roadside infrastructure were constructed. Therefore, this section of North Bear Creek Drive should continue to be exempt from installing such improvements unless they become necessary for safety reasons in the future.

Other Special Streets

The following streets also require special sections because of non-standard rights-of-way or curb-to-curb widths and other special circumstances:

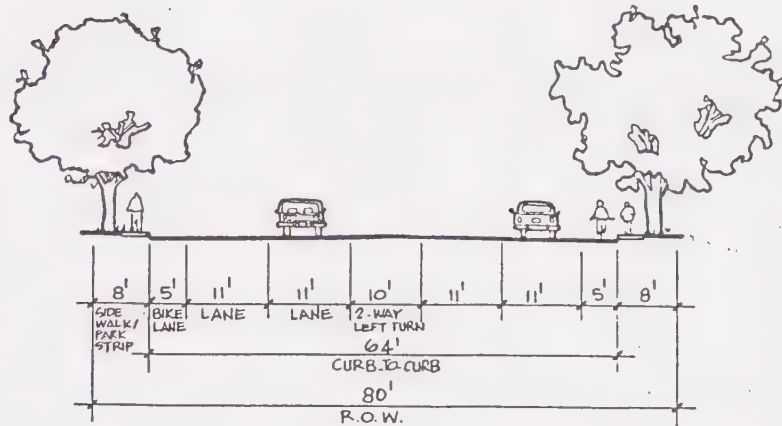
- 1) Childs Avenue between West Avenue and Martin Luther King Jr. Way (*Figure 4.37b*)

Figure 4.37b
Childs Avenue Special Section



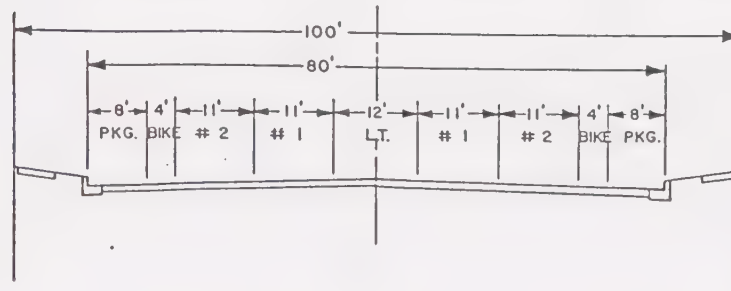
- 2) Highway 140 from V Street to 207 feet west of "X" Street (*Figure 4.37c*)

Figure 4.37c
Highway 140 Special Section



- 3) Yosemite Park Way from 21st Street to Bradley Overpass (*Figure 4.37d*)

Figure 4.37d
Yosemite Park Way Special Section



- 4) "R" Street between Highway 99 and Childs Avenue (*Figure 4.37e*)

Figure 4.37e
R Street Special Section

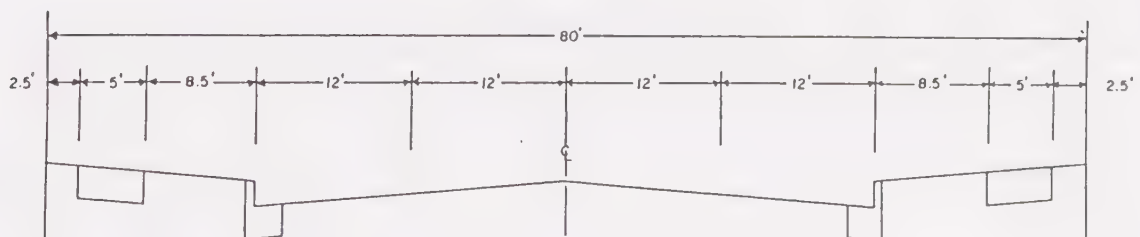


Table 4.3

*City of Merced
Summary of Street and Highway Standards*

ROAD CLASSIFICATION	RIGHT-OF-WAY	# OF LANES	DRIVEWAY ACCESS RESTRICTIONS	STREET INTERSECTION SPACING	PARKING
Expressway	150 ft	6-8	Full	1 mile	No
Major Arterial	128 feet	4-6	Full	1/4 - 1/2 mile	No
Arterial	128 feet	4-6	¹ Partial	1/4 - 1/2 mile	No
Divided Arterial	118 feet	4-6	¹ Partial	1/4 - 1/2 mile	No
Minor Arterial	94 feet	2-4	¹ Partial	1/8 - 1/4 mile	Generally Not Permitted
Major Collector	² 68-74 ft	2-4	³ Partial	As needed	³ Permitted in Selected Areas
Collector	68 ft	2	⁴ Partial	As needed	⁴ Permitted in Selected Areas
Local	49-60 ft	2	No	As needed	Permitted
Transitway	⁵ Varies	2-6	⁵ Varies	⁵ Varies	⁵ Varies

¹Generally no direct access to adjacent property. Right-turn-in/right-turn-out local streets or combined access driveways may be permitted at the City's discretion at 1/8 mile points.

²Less (68 feet) right-of-way (ROW) may be permitted where supported by a traffic analysis to assure that the narrower street would not be overloaded. Analysis would include trip generation and distribution based on existing and future land use and circulation system. Additional width may be necessary at intersections where analysis shows need for turn lane(s).

³Generally no direct access (fronting lots and residential driveways) allowed.

⁴Fronting lots would be permitted on Collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions. Driveways or other direct access and parking are to be avoided if feasible within 300 feet of existing signalized intersection or an intersection with realistic prospects for future signalization

⁵There are different kinds of transitways, depending on their function. Some segments will allow buses only (refer to Bellevue Ranch Master Development Plan) while others will function as normal arterials except they will offer exclusive "High-Occupancy Vehicle" lanes.

NOTE: These are general standards appropriate for most situations. Higher standards may be required or less standards may be permitted based on detailed design studies. Expanded ROW's may be required at intersections to accommodate turn lanes. On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design. A subdivision design deleting on-street bicycle lanes may be permitted if an adequate, convenient Class I bicycle path(s) is available (subject to possible reimbursement and/or maintenance costs for existing system).

Currently adopted standards are contained in the City of Merced Standard Designs of Common Engineering Structures.

(Table 4.3 is the same as Table 4.2 on page 4-9)

4.8.2 Intersection Spacing and Design Standards

In order to provide for maximum traffic volumes on Arterial streets, access must be controlled, intersections must be carefully spaced, and adequate capacity must be built into each intersection.

The design and spacing standards listed below apply to those areas within the City's Specific Urban Development Plan (SUDP) agreement area. They are generalized standards and apply to the most common conditions. Detailed traffic studies for specific development projects may indicate that higher level of improvements may be required, or that lesser standards may be permitted.

Intersection Spacing Standards for Major Arterial Streets

*Major four-way intersections (intersections of future major arterial, arterial and divided arterials with expressways and other divided arterials and higher order streets) should be no closer than (approximate) one-mile intervals.

*Intervening four-way signalized intersections of future Major Arterials with (major) collector streets should be no closer than $\pm 1/2$ -mile. Intervening four-way signalized intersections of future Arterials with (major) collector streets should be no closer than $\pm 1/4$ -mile. These distances should be proportionately adjusted if the distance between adjacent parallel arterial streets is more or less than the base one-mile distance.

*Free right-turn intersections (right-turn-in/right-turn-out) of future Major Arterials with collector streets may be permitted at $\pm 1/4$ -mile intervals. Free right-turn intersections of future Arterials with local streets may be permitted at $\pm 1/8$ -mile intervals at the City's discretion. These standards are illustrated graphically for North Merced in **Figure 4.3**. Those intersections designated with a (*) pose special problems because of possible traffic movement conflicts between through traffic and vehicles making right-hand-turning movements.

Intersection Design Standards

Intersections are critical components of a circulation system. They frequently overload before the rest of the system and adversely affect adjacent arterial streets. In order to serve the high traffic volumes projected for future arterial streets, adequate capacity must be built into the intersection, or enough right-of-way must be preserved for future expansion. Curb cuts adjacent to and within the intersection tapers must be restricted or prohibited.

Summarized below are general right-of-way and design standards for standard intersections. More detailed descriptions of requirements are established in the City of Merced Standard Designs of Common Engineering Structures.

Like intersection spacing standards, these are general standards for the most common situations. Detailed intersection design studies may demonstrate that a higher level of improvements may be required (like at the intersections of an expressway and an arterial), or a lesser design may be permitted.

Major Arterial/Arterial

Right-of-way width shall be 150 feet starting at the intersection and going back 400 feet, then the right-of-way tapers to 128 feet at a point 970 feet from intersection.

This configuration will permit three through-lanes in each direction, with double left- and right-turn lanes.

Divided Arterial

Right-of-way width shall be 140 feet starting at the intersection and going back 400 feet. The right-of-way the tapers to 118 feet at a point 780 feet from intersection.

This configuration permits two through-lanes in each direction, with double left-turn lanes and a single right-turn lane.

Examples of designs for the intersections described above can be found in *Figures 4.38* and *4.39* on the following pages.

-
- #1. Working Paper On Circulation Options in Future City of Merced (Fehr & Peers, June 1991)
 - #2. Bellevue Ranch Master Development Plan (MDP)

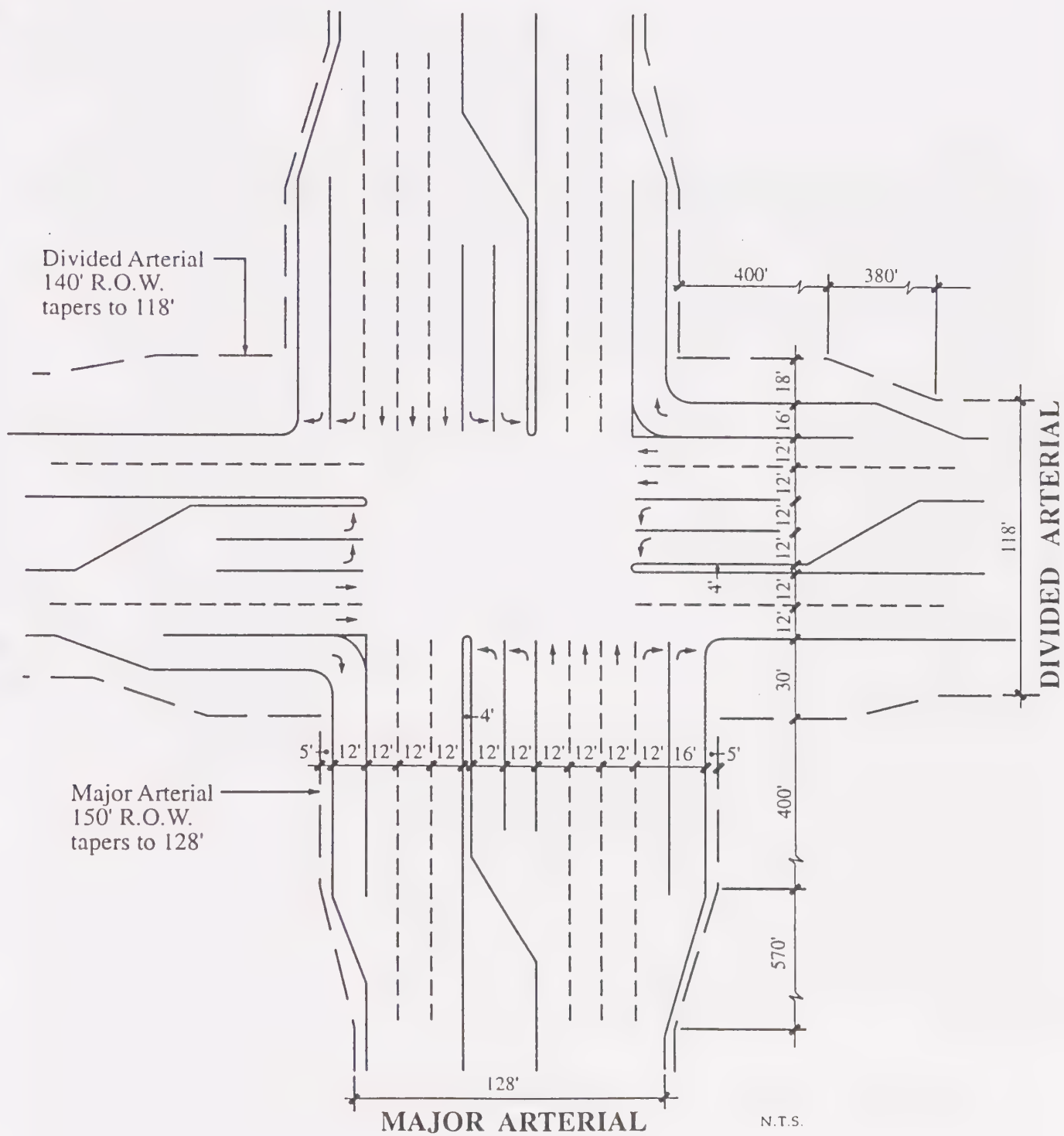
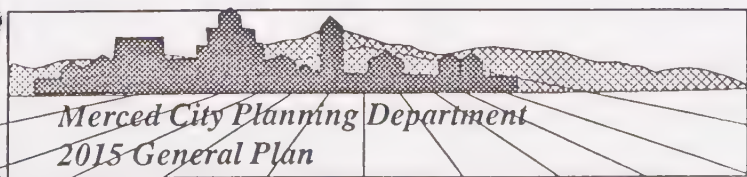


Figure 4.38

Expanded Intersection of a
Major Arterial and a Divided Arterial



4.8.3 Needed Transportation Projects

Table 4.4

Major Street Improvement Projects

<i>Project #</i>	<i>Project Type</i>	<i>Location</i>
1	New Expressway	From Highway 99 near Cooper Avenue to the intersection of Highway 59 and Yosemite Avenue.
2	Interchange	New Expressway (Project #1) and Santa Fe Drive
3	New Expressway	Parallel to Highway 59 between Yosemite & Old Lake
4	Modify Ramps & Complete 13th/14th 1-Way Couplet	V St. and R St. @ Highway 99
5	Interchange	Highway 99 @ Mission Avenue
6	Upgrade Arterial	Thornton Road from Highway 140 to Mission Avenue
7	Extend Arterial	R St. from Yosemite Avenue to Old Lake Road
8	Extend Transitway	M St. from LeHigh Drive to Old Lake Road
9	Extend Arterial	Cardella Road from Highway 59 to Gardner/Parsons
10	Upgrade Arterial	Parsons/Gardner from Childs Avenue to Old Lake Road
11	Modify Ramps & Complete 13th/14th 1-way Couplet	Highway 99 @ Martin Luther King Jr. Way, G St., & Childs Avenue
12	Upgrade Arterial	Old Lake Road from Highway 59 to Lake Yosemite
13	Upgrade Arterial	Eastern Beltway from Mission Avenue to UC campus
14	Upgrade Arterial	Mission Road from Thornton to Highway 99
15	Upgrade Arterial	Bellevue Road from Lake Road to Highway 59
16	Upgrade Arterial	G St. from Yosemite Avenue to Old Lake Road
17	Upgrade Arterial	Mission Avenue from Highway 99 and Eastern Beltway
18	Interchange	New Highway 59 @ Highway 99
19	Interchange	New Highway 59 @ Yosemite Avenue
20	Upgrade Arterial	East Highway 140 from Parsons Avenue to Tower Road
*21	Upgrade Freeway to 6 to 8 Lanes	Highway 99 Through Merced

*This project (which is the responsibility of the State) is currently under study as part of the Highway 99 Major Investment Study.

NOTE: This table is derived from the Highway 99 Major Investment Study, which is still undergoing modification and review. This table is, therefore, subject to change.

(Table 4.4 is the same as Table 4.1 on page 4-3)

4.8.4 Roadway Level of Service (LOS) Data

Table 4.5
Merced SUDP Arterial Street System
Traffic Volume & Level of Service
1990 and 2015

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume ⁽¹⁾	1990 LOS ⁽²⁾	Number of Lanes in 2015	2015 Traffic Volume ⁽¹⁾	2015 LOS ⁽²⁾
NORTH/SOUTH ARTERIALS:						
Thornton Avenue						
Mission to Highway 140	2	662	C+	4	14,104	C+
Highway 140 to Highway 99						
Northbound	0	0	n/a	2	10,496	C+
Southbound	0	0	n/a	2	9,583	C+
North Highway 59 (Old)						
16th to Olive	2	13,195	C+	4	24,224	F
Olive to Yosemite	2	6,387	C+	4	22,248	C+
North Highway 59 Expressway						
Highway 99 to Santa Fe						
Northbound	0	0	n/a	3	27,357	C+
Southbound	0	0	n/a	3	25,909	C+
Santa Fe to Yosemite						
Northbound	0	0	n/a	3	13,340	C+
Southbound	0	0	n/a	3	13,882	C+
Yosemite to Cardella	2	4,299	C+			
Northbound		n/a	n/a	3	17,815	C+
Southbound		n/a	n/a	3	17,814	C+
Cardella to Bellevue	2	3,323	C+			
Northbound		n/a	n/a	3	12,592	C+
Southbound		n/a	n/a	3	12,772	C+
Bellevue to Old Lake	2	2,679	C+	4	16,383	C+
North of Old Lake	2	2,652	C+	4	7,335	C+
"R" Street						
Mission to Childs	0	0	n/a	2	n/a	n/a
Childs to Highway 99	2	9,989	C+	2	13,970	C+
Highway 99 to Bear Creek	4	28,780	C+	4	33,593	C, D, E, F
Bear Creek to Olive	4	22,772	C+	4	20,961	C+
Olive to Yosemite	2-4	3,698	C+	4	14,203	C+
Yosemite to Cardella	0	0	n/a	4	4,026	C+
Cardella to Bellevue	0	0	n/a	4	631	C+
Bellevue to Old Lake	0	0	n/a	4	479	C+
North of Old Lake	0	0	n/a	4	78	C+

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume ⁽¹⁾	1990 LOS ⁽²⁾	Number of Lanes in 2015	2015 Traffic Volume ⁽¹⁾	2015 LOS ⁽²⁾
"M" Street						
Mission to Childs	0	0	n/a	2	n/a	n/a
Childs to Highway 99	2	6,450	C+	2	14,490	C/D
Highway 99 to Bear Creek	4	24,673	C+	4	26,648	C, D, F
Bear Creek to Olive	4	25,096	C+	4	23,252	C+
Olive to Yosemite	4	11,084	C+	4	22,159	C+
Yosemite to Cardella	0-2	3,060	C+	4	6,861	C+
Cardella to Bellevue	0	0	n/a	4	4,114	C+
Bellevue to Old Lake	0	0	n/a	4	4,638	C+
North of Old Lake	0	0	n/a	4	13	C+
Martin Luther King Jr. Way/ South Highway 59						
South of Mission	2	6,667	C+	2	15,103	C+
Mission to Gerard	2	12,623	C+	4	18,394	C+
Gerard to Childs	2	18,766	C+	4	29,045	D
Childs to Highway 99	4	22,952	C+	4	32,904	E, F
Highway 99 to 18th	4	20,227	C+	4	29,338	C, D, F
"G" Street						
Mission to Childs	0	0	n/a	2	n/a	n/a
Childs to Highway 99	2	7,445	C+	2	16,882	D
Highway 99 to Bear Creek	4	33,018	D & E	4	40,444	F
Bear Creek to Olive	4	24,420	C & D	4	29,878	C, D
Olive to Yosemite	4	18,777	C+	4	23,749	C+
Yosemite to Cardella	2	9,038	C+	4	13,228	C+
Cardella to Bellevue	2	4,939	C+	4	16,338	C+
Bellevue to Old Lake	2	4,259	C+	4	27,204	C+
North of Old Lake	2	2,989	C+	6	31,713	C+
Parsons Avenue/Gardner Road						
Gerard to Childs	2	2,700	C+	2	13,629	C+
Childs to Highway 140	2	4,285	C+	4	32,052	C+
Highway 140 to Bear Creek	0-2	343	C+	4	30,420	C+
Bear Creek to Olive	0-2	503	C+	4	25,543	C+
Olive to Yosemite	0-2	1,408	C+	4	20,889	C+
Yosemite to Cardella	0-2	322	C+	4	14,760	C+
Cardella to Bellevue	2	--	n/a	4	12,994	C+
Bellevue to Old Lake	2	--	n/a	4	11,841	C+
North of Old Lake	0	--	n/a	0	n/a	n/a
McKee Road (Collector)						
Hwy 140/Santa Fe to Bear Creek	2	3,727	C+	2	3,490	C+
Bear Creek to Olive	2	3,761	C+	2	3,425	C+
Olive to Yosemite	2	977	C+	2	792	C+

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume ⁽¹⁾	1990 LOS ⁽²⁾	Number of Lanes in 2015	2015 Traffic Volume ⁽¹⁾	2015 LOS ⁽²⁾
Eastern Beltway						
Mission to Highway 140						
Northbound	0	0	n/a	3	12,931	C+
Southbound	0	0	n/a	3	11,537	C+
Highway 140 to Bear Creek						
Northbound	0	0	n/a	3	12,738	C+
Southbound	0	0	n/a	3	12,587	C+
Bear Creek to Olive						
Northbound	0	0	n/a	3	12,738	C+
Southbound	0	0	n/a	3	12,587	C+
Olive to Yosemite						
Northbound	0	0	n/a	3	12,738	C+
Southbound	0	0	n/a	3	12,587	C+
Yosemite to Cardella	0	0	n/a	6	33,941	C+
Cardella to Bellevue	0	0	n/a	6	33,056	C+
North of Bellevue	0	0	n/a	6	36,316	C+
EAST/WEST ARTERIALS						
Old Lake Road						
Highway 59 to "R" St.	0	0	n/a	4	8,496	C+
"R" St. to "M" St.	0	0	n/a	4	8,748	C+
"M" St. to "G" St.	0	0	n/a	4	12,061	C+
"G" St. to Parsons/Gardner	2	1,166	C+	4	11,760	C+
Parsons/Gardner to Lake	0-2	31	C+	4	12,455	C+
Bellevue Road						
Highway 59 to "R" St.	2	2,964	C+	6	30,417	C+
"R" St. to "M" St.	2	2,800	C+	6	30,556	C+
"M" St. to "G" St.	2	2,800	C+	6	31,662	C+
"G" St. to Parsons/Gardner	2	490	C+	6	23,874	C+
Parsons/Gardner to Lake	2	278	C+	6	18,731	C+
Cardella Road						
Highway 59 to "R" St.	0-2	n/a	n/a	4	11,332	C+
"R" St. to "M" St.	0	0	n/a	4	10,498	C+
"M" St. to "G" St.	0	0	n/a	4	9,990	C+
"G" St. to Parsons/Gardner	0-2	n/a	n/a	4	4,282	C+
Parsons/Gardner to Lake	0-2	n/a	n/a	4	868	C+
Yosemite Avenue						
Highway 59 to "R" St.	0	0	n/a	4	11,984	C+
"R" St. to "M" St.	2	84	C+	4	10,666	C+
"M" St. to "G" St.	2	6,214	C+	4	14,415	C+
"G" St. to Parsons/Gardner	2	3,706	C+	4	19,242	C+
Parsons/Gardner to Lake	2	2,719	C+	4	18,553	C+

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume ⁽¹⁾	1990 LOS ⁽²⁾	Number of Lanes in 2015	2015 Traffic Volume ⁽¹⁾	2015 LOS ⁽²⁾
Olive Avenue						
West of Hwy 59 (Santa Fe Ave)	4	19,065	C+	6	32,208	C+
Highway 59 to "R" St.	6	26,931	C+	6	40,518	C+
"R" St. to "M" St.	6	36,277	C+	6	34,553	C+
"M" St. to "G" St.	6	29,240	C+	6	38,233	C+
"G" St. to Parsons/Gardner	2-4	12,751	C+	4	21,024	C+
Parsons/Gardner to Lake	2	5,532	C+	2	6,495	C+
North Bear Creek Drive						
Highway 59 to "R" St.	2	1,290	C+	2	2,152	C+
"R" St. to "M" St.	2	4,724	C+	2	8,732	C
"M" St. to "G" St.	2	4,192	C+	2	9,307	C
"G" St. to Parsons/Gardner	2	2,952	C+	2	7,839	C+
Parsons/Gardner to Lake	0-2	539	C+	2	1,282	C+
Highway 140						
West of Thornton	2	7,020	C+	2	11,605	C+
Thornton to "V" St.	2	9,424	C+	2	13,296	C+
"G" St. to Parsons	4	11,502	C+	4	23,146	C+
Parsons to Eastern Beltway	2	10,414	C+	4	18,856	C+
16th Street						
Highway 99 to "V" St.	4	23,650	C+	4	28,984	D, E
"V" St. to "R" St.	4	19,316	C+	4	33,203	F
"R" St. to "M" St.	4	15,470	C+	4	34,693	F
"M" St. to "G" St.	4	17,001	C+	4	38,670	F
"G" St. to Highway 99	4	2,723	C+	4	14,245	C+
Highway 99						
West of Thornton						
Northbound	2	22,756	C+	4	n/a	C+
Southbound	2	14,041	C+	4	n/a	C+
Thornton to "V" St.						
Northbound	2	15,539	C+	4	57,215	C+
Southbound	2	13,680	C+	4	56,608	C+
"V" St. to "R" St.						
Northbound	2	19,272	C+	4	39,231	C+
Southbound	2	18,190	C+	4	38,502	C+
"R" St. to Martin Luther King						
Northbound	2	20,750	C+	4	57,883	D
Southbound	2	19,652	C+	4	55,123	C+
Martin Luther King to "G" St.						
Northbound	2	19,542	C+	4	47,339	C+
Southbound	2	19,665	C+	4	45,949	C+
"G" St. to Highway 140						
Northbound	2	20,447	C+	4	50,566	C+
Southbound	2	23,660	C+	4	53,884	C+

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume ⁽¹⁾	1990 LOS ⁽²⁾	Number of Lanes in 2015	2015 Traffic Volume ⁽¹⁾	2015 LOS ⁽²⁾
Highway 99 (Cont.)						
Highway 140 to Childs						
Northbound	2	19,467	C+	4	50,553	C+
Southbound	2	18,663	C+	4	49,326	C+
Childs to Gerard						
Northbound	2	16,706	C+	3	35,617	C+
Southbound	2	16,982	C+	3	37,730	C+
Gerard to Mission						
Northbound	2	15,265	C+	3	35,617	C+
Southbound	2	15,264	C+	3	37,730	C+
South of Mission						
Northbound	2	15,143	C+	3	35,180	C+
Southbound	2	15,142	C+	3	34,776	C+
14th Street						
“V” St. to “R” St.	2	n/a	n/a	3 lanes/ One-Way (West)	22,301	C+
“R” St. to “M” St.	2	n/a	n/a	3 lanes/ One-Way (West)	6,536	C+
“M” St. to Martin Luther King	2	n/a	n/a	3 lanes/ One-Way (West)	4,023	C+
13th Street						
“V” St. to “R” St.	2	12,000	C+	3 lanes/ One-Way (East)	21,654	C, D
“R” St. to “M” St.	2	10,467	C+	3 lanes/ One-Way (East)	10,718	C+
“M” St. to Martin Luther King	2	13,328	C+	3 lanes/ One-Way (East)	9,878	C+
Martin Luther King to “G” St.	2	6,135	C+	4/ 2-Way	17,184	C+
“G” St. to “B” St.	2	4,543	C+	2	10,784	C+
Childs Avenue						
West Ave to Highway 59	2	3,545	C+	2	12,260	C/D
Highway 59 to Tyler	2	4,809	C+	4	14,620	C+
Tyler to Highway 99	2	3,642	C+	4	24,445	C/D
Highway 99 to Coffee	2	4,460	C+	4	17,356	C+
Coffee to Eastern Beltway	2	97	C+	4	13,051	C+
East of Eastern Beltway	2	47	C+	4	9,651	C+

Roadway/Segment	Number of Lanes in 1990	1990 Traffic Volume⁽¹⁾	1990 LOS⁽²⁾	Number of Lanes in 2015⁽⁴⁾	2015 Traffic Volume⁽¹⁾	2015 LOS⁽²⁾
Gerard Avenue						
West Ave to Highway 59	0-2	533	C+	2	6,531	C+
Highway 59 to Tyler	2	221	C+	4	2,652	C+
Tyler to Highway 99	2	139	C+	4	4,722	C+
Highway 99 to Coffee	2	3,880	C+	2	3,732	C+
Coffee to Eastern Beltway	0	0	n/a	2	n/a	n/a
East of Eastern Beltway	0	0	n/a	2	n/a	n/a
Mission Avenue						
Thornton to West Ave (extended)	2	527	C+	4	11,880	C+
West Ave to Highway 59	2	2,145	C+	4	12,619	C+
Highway 59 to Tyler	2	2,074	C+	4	16,299	C+
Tyler to Highway 99	2	1,218	C+	4	13,228	C+
Highway 99 to Coffee	2	890	C+	4	25,663	C+
Coffee to Eastern Beltway	2	595	C+	4	20,620	C+
East of Eastern Beltway	2	46	C+	4	2,997	C+

NOTES:

- (1) Traffic Volume is measured in ADT's (Average Daily Trips);
- (2) "C+" indicates Level-of-Service (LOS) "C" or better, including LOS A and B.
- (3) The source of this table is the "Highway 99 Major Investment Study" traffic model developed by the Merced County Association of Governments. The information may change as further details becomes available.
- (4) The number of lanes shown are the number recommended to mitigate traffic impacts associated with the Land Use Plan.

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(5/29/97)





Chapter 5

Public Services and Facilities

5.1 INTRODUCTION

Public places provide a shared sense of belonging for all of Merced's citizens. They foster a humane and caring community and promote pride and mutual respect. Children in Merced develop much of their sense of community and well-being from their schools, neighborhood parks, the County Courthouse, the Civic Center, and other public places. These do more than provide public services; they are symbols of Merced and a necessary part of the collective self-esteem of the community.

The Land Use Element of the General Plan is required to address the general location and distribution of "recreation facilities, educational facilities, and public buildings and grounds" [Government Code Section 65302(a)], but a separate "public facilities element" is not required under State law. The City of Merced has chosen to prepare a "Public Facilities Element" because of the challenge of providing public services and facilities to a growing community.

The goals and policies contained in this chapter address the provision of public services and facilities necessary to meet the demands of Merced's residents now

and in the future. The General Plan postulates what facilities may be needed or desired in the future. This includes looking for the most cost-effective and efficient ways of providing services as well as searching for alternative means of financing capital improvements.

This chapter does not prioritize or offer a method of prioritizing specific projects. Where more detailed information is needed for specific projects or types of services, the policies contained in this chapter should be used as guidelines for requiring the preparation of various master plans or studies to clearly define the need, priority, or method of providing services and facilities. In addition, use of the City's Capital Improvements Program (CIP) can establish the means of correlating public projects with the needs of the community and available funding sources.

A wide variety of public services and facilities are addressed in this chapter, including services provided by other public agencies or the private sector that affect Merced's citizens and thus require coordination with the City. These services include:

- Fire and Police Protection
- Water
- Wastewater
- Storm Drainage/Flood Control
- Solid Waste Disposal
- Schools
- Library and Cultural Services
- Health and Justice Services

Transportation and transit services are addressed in the Transportation and Circulation Element (Chapter 4), and recreational facilities are addressed in the Open Space, Conservation, and Recreation Element (Chapter 7).

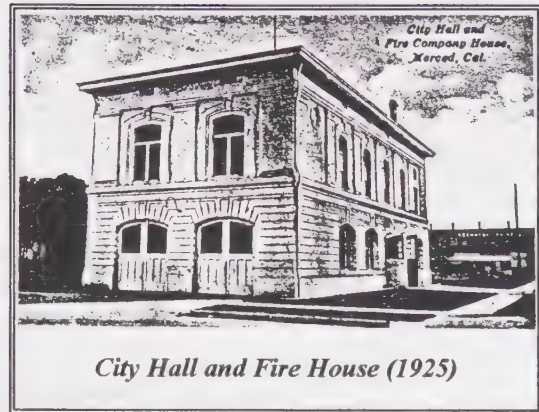
5.2 SETTING



5.2.1 Fire Protection

History of the Merced Fire Department

The concern for fire protection in the City of Merced can be traced back to 1873 when the first fire department, "Eureka Engine Company No. 1," was formed. A used fire engine was obtained in 1874 and christened "Old Betsy." The first engine house wasn't built until 1885 on 18th and Canal Streets. In 1889, the second floor of this engine house was converted into the city hall and council chambers for the newly-incorporated City of Merced. In 1891, the original engine company was replaced by "El Capitan Hose Company No. 1," a volunteer group which served until 1952 when it opted to disband.

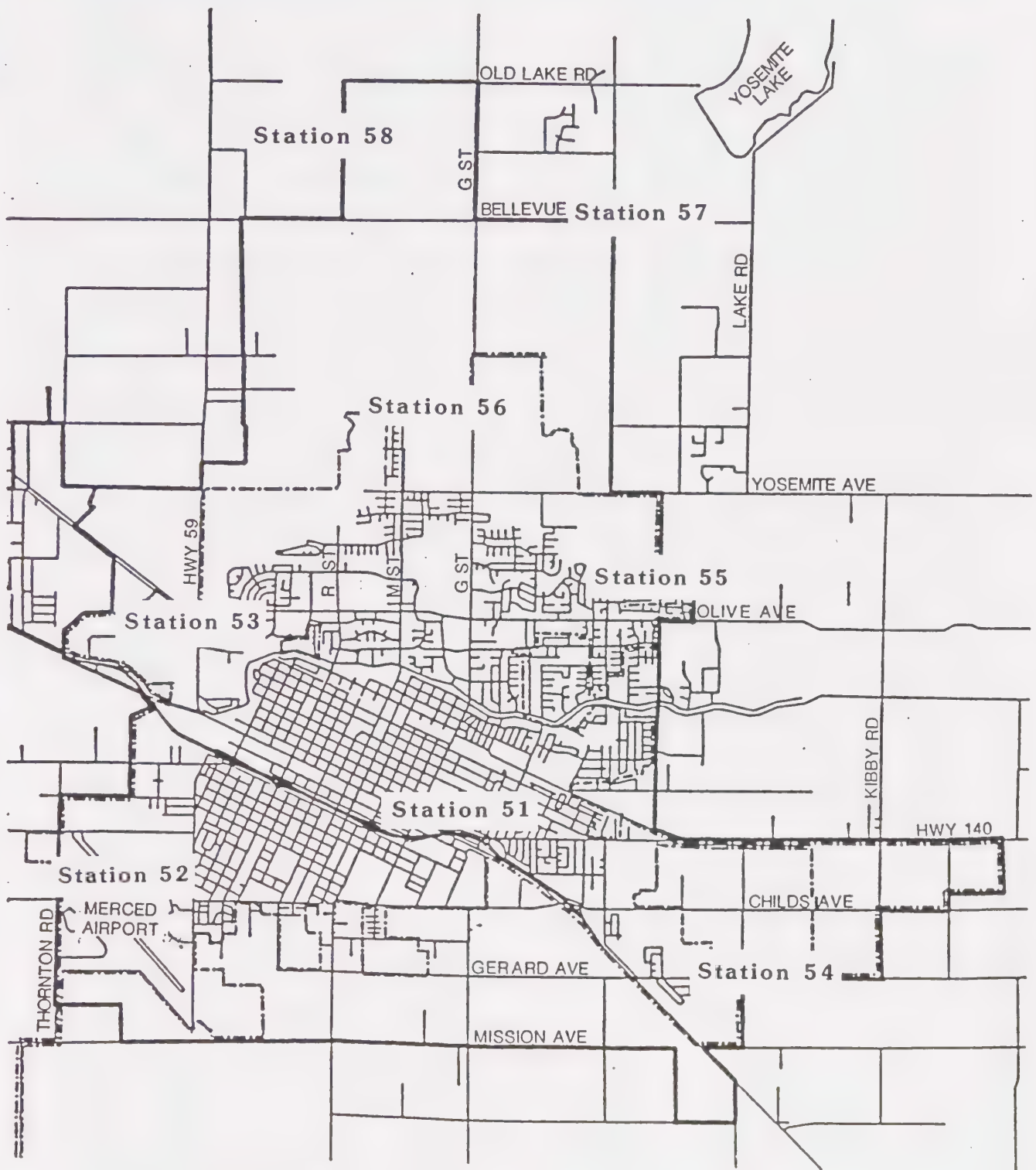


Merced Fire Department

The City of Merced Fire Department provides fire protection, rescue, and emergency medical services from four fire stations throughout the urban area. The City central fire station is located in the downtown area. (This facility is scheduled to be moved to 16th and G Streets by 1997.) A station on East 21st Street near Yosemite Park Way, a station north of the Merced Mall on Loughborough Drive, and another at the Municipal Airport are the other three stations.

Fire Department personnel are typically assigned on a three-platoon work schedule, which provides the City coverage 24 hours a day, seven days a week. The Department equipment includes first-line engine companies (carry and pump water), ladder companies, reserve engines and ladder trucks, and other miscellaneous vehicles.

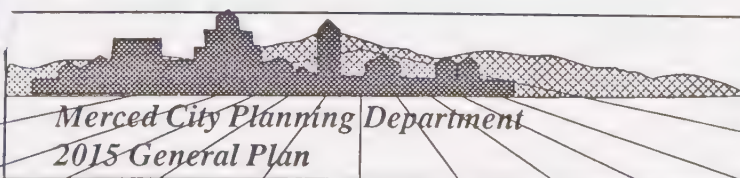
Merced's fire protection system operates according to a central station concept. Under this concept, a central station can respond to calls from within its own service area or district, and can provide back-up response to other districts as well. From 1990 to 1995, response activity doubled.



SOURCE: Merced City Fire Department

Figure 5.1

Proposed Fire Station Locations



The Department is rated under the auspices of the Insurance Services Office (ISO) which defines protection services on a scale of 1 to 10--1 representing the best level of protection and 10 indicating no protection at all. The Department's 1995 rating is Class 2, which is considered to be well above average, despite manning levels well below national averages. This rating helps keep the costs of fire insurance premiums low for City businesses.

The City's Fire Department Master Facilities Plan is used in the planning of stations that will provide protection within a primary service area. The Department has a goal of maintaining a response time of four to six minutes for the first crew to arrive at a fire or medical emergency within an assigned district. This goal was chosen on the basis of proven factors affecting property damage and, more importantly, life.

As the City continues to grow in population and area, the fire protection system will have to change if it is to maintain this response time standard. This would require three existing stations to be relocated and four new facilities with personnel and equipment to be added to the system. *Figure 5.1* shows tentative fire station locations.



5.2.2 Police Protection

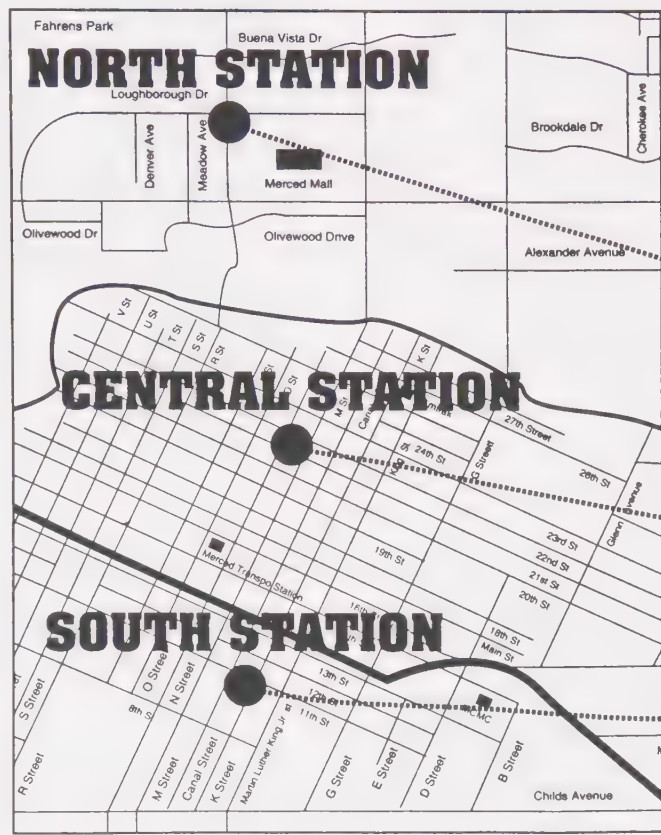
Police protection for the entire City is provided by the City of Merced Police Department. The Police Department

employs a mixture of sworn officers, non-sworn officer positions (clerical, etc.), and unpaid volunteers (VIP's). The 1995 service standard used for planning future police facilities is approximately 1.32 sworn officers per 1,000 population.

Merced is divided into three police districts (*Figure 5.2*), each with its own police facility and officers. District One serves the area north of Bear Creek from the North Station on Loughborough Drive. District Two serves the area between Highway 99 to the south and Bear Creek to the north from the Central Station at M and 22nd Streets. District Three serves the area south of Highway 99 from the South Station in McNamara Park.

The primary reason for the three districts is to place police officers closer to the neighborhoods and citizens they serve. The Police Department feels that this "community policing" concept will be successful in combating a growing incidence of crime as the City grows. Citizen councils have been established in each district to meet with area commanders and develop strategies for combating crime in their neighborhoods. Neighborhood Watch programs are located throughout the City and have been highly successful.

Criminal activity and calls for police service will increase due to population growth alone. By 2015, officer responses to incidents could increase from 45,000 in 1994 to over 100,000 annually if current population trends hold true. To cope with this anticipated workload, additional officers, equipment, and facilities will need to be added. Police districts may be revised or added.



SOURCE: Merced City Police Department

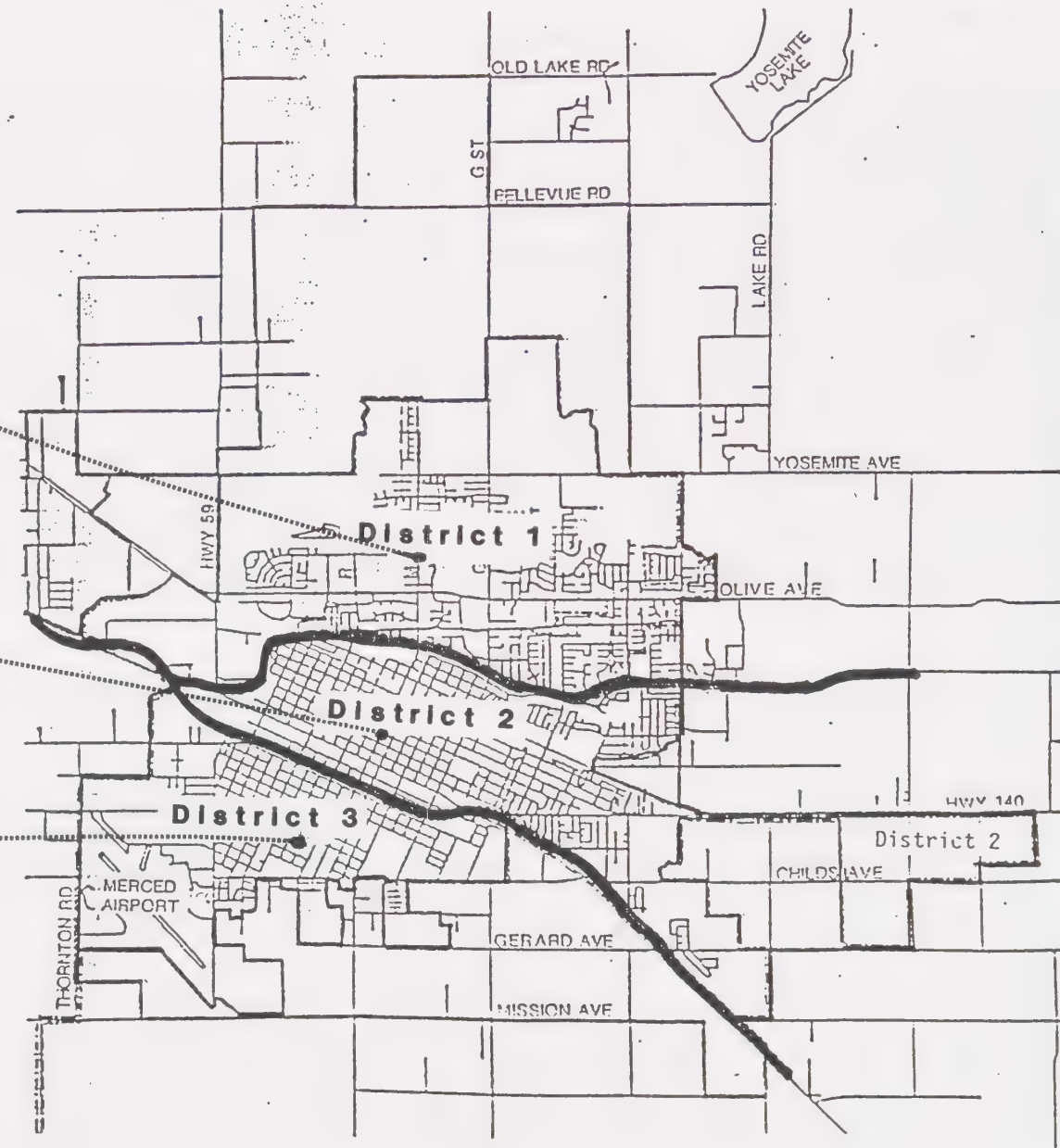


Figure 5.2

Police Districts

5.2.3 Water

Under the water rights of the Merced Irrigation District (MID), the City of Merced received its water from the Merced River via Lake Yosemite until 1917. Since then, the City has relied on groundwater as its primary water source, but groundwater is recharged almost entirely through agricultural application of surface water from the Merced River.

In 1995, the City's water supply system consisted of four elevated storage tanks with a combined storage capacity of approximately 1.4 million gallons, and 18 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Health pressure requirements, which (in 1995) call for a minimum of 20 psi at every service connection under the annual peak hour condition and maintenance of the annual average day demand plus fire flow, whichever is stricter.

Through the Capital Improvement Program, the City plans to increase water wells to match the requirements of development, generally one well per square mile. The City continues to monitor any ground water contamination and the cleanup of contamination upon detection. Water treatment includes fluoridation and chlorination at each well site.

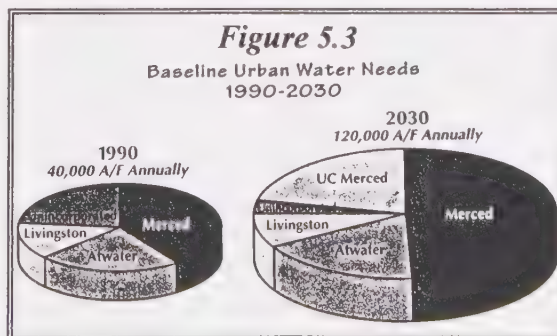
Merced Water Supply Plan

Increasing urban demand and population growth, along with an increasing shift by farmers from surface water to groundwater and prolonged drought, have resulted in declining groundwater

levels due to overdraft. Recognizing this point, the City of Merced and the Merced Irrigation District (MID) in 1993 began a two-year planning process to assure a safe, reliable water supply for eastern Merced County through 2030. The result of this planning process was the *Merced Water Supply Plan*.



The Merced Water Supply Plan evaluated future water needs, which showed increasing urban water needs due to population growth. It was projected that the City of Merced's needs could increase from 15,000 acre feet (a/f) in 1995 to 60,000 acre feet by 2030. The UC campus was projected to need another 20,000 acre feet. Fishery water needs along the Merced River are expected to increase dramatically while agricultural needs are likely to decrease by 12 percent by 2030 as conservation improves and a trend toward less water-intensive crops continues. However, it is expected that 90 percent of all permanent crops and 20 percent of field crops will be irrigated from private wells, placing immense demands on the underground aquifer.



The plan determined that if these patterns continued and no action was taken, groundwater levels would continue to decline, resulting in increasing costs and poorer water quality. Several options for meeting the region's future water needs were studied in the plan, including the possible use of surface water to meet urban water demands.

After extensive public involvement in all phases of the plan, the "groundwater recharge" alternative was selected because the Project Advisory Committee felt it was the most cost effective and environmentally sound approach. Under this Preferred Alternative, the cities will remain on groundwater (constructing new wells as needed), groundwater recharge facilities will be constructed on an annual basis with the goal of stabilizing groundwater at 1992 levels, and MID will increase the delivery of surface water to agricultural users along with installing new wells to protect against droughts.

Issues that will need further study include the location and construction timing of groundwater recharge facilities, which agency or agencies will operate and maintain these facilities, and what costs should be shared. It is indicated that by 2030 slightly over 100,000 acre feet of recharge per year will be needed to maintain 1992 groundwater levels.

5.2.4 Wastewater Collection & Disposal

Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential,

commercial, and industrial uses in the City. In the 1980's, the *Wastewater Master Plan for North Merced* was established in order to provide a collection system for future northern growth.

The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about two miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a capacity of 10 million gallons per day (mgd), with an average 1995 flow of 6.5 mgd to a peak approaching 8.0 mgd. This design capacity can support a population of approximately 77,000.

Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land application area and the on-site City-owned wetland area south of the WWTP.

The City has plans to expand its wastewater treatment plant as growth occurs. The proposed 10 mgd expansion would be accomplished in two phases of 5 mgd each to bring the plant's total capacity to 20 mgd. This capacity is expected to serve an estimated population of 150,000 as well as new business and industry. The collection system will also need to be expanded as development occurs.

5.2.5 Storm Water Drainage and Flood Control

The *Merced County Critical Area Flooding and Drainage Plan* addresses the collection and disposal of surface water runoff that originates in, or passes through, a 180-square-mile area, including the City's SUDP. The study addresses both the collection and disposal of storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve present and projected urban land uses. As the City grows, however, a more comprehensive system for addressing storm water discharge requirements and flood control will need to be developed.

The City requires the construction of storm water percolation/detention basins with new development. Percolation basins are designed to collect storm water and filter it before it is absorbed into the soil and reaches groundwater tables. Detention basins are designed to temporarily collect runoff so it can be metered at acceptable rates into canals and streams which have limited capacity. The disposal system is mainly composed of Merced Irrigation District (MID) facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area.

5.2.6 Solid Waste

Solid wastes within the County of Merced are disposed of at two landfill sites owned by the Merced County Association of Governments and operated by the Merced County Department of Public Works. The west side of the County is served by the Billy Wright Road landfill, and the east side

(including the City of Merced) by the Highway 99 landfill, just 1 and 1/2 miles north of Old Lake Road.



The County of Merced is the contracting agency for landfill operation and maintenance. It is estimated that the remaining capacity of the Highway 99 site will last until the year 2001. This site is proposed for a 315-acre northerly expansion, adding 191 acres of landfill area and an additional 30 years capacity.

The City of Merced provides services for all refuse pick-up within the City limits. Recycling is encouraged.

5.2.7 Schools

Primary and Secondary Education

Public schools play an important role in the community. Schools educate the City's children, offer open space and playing fields, and give a sense of identity to the City's neighborhoods. High quality education produces future leaders and skilled workers and contributes to the City's cultural and social well being.

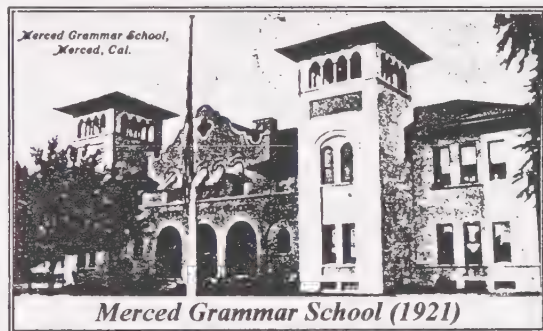
Public schools are operated by school districts, which are autonomous governmental agencies separate from the City. They have their own elected officials and source of funding. There has been a long tradition of support and cooperation between the school districts and the community because public schools are so important to Merced. The City coordinates with the school districts on the

locations of future school sites, the collection of developer impact fees, and joint activities and facilities (i.e. school parks).

The public school system in Merced is served by three districts:

- 1) Merced City School District (elementary and middle schools);
- 2) Merced Union High School District (MUHSD); and,
- 3) Weaver Union School District (serving a small area in the southeastern part of the City with elementary schools).

The districts include various elementary schools, middle (junior high) schools, and high schools (*Figure 5.4*).

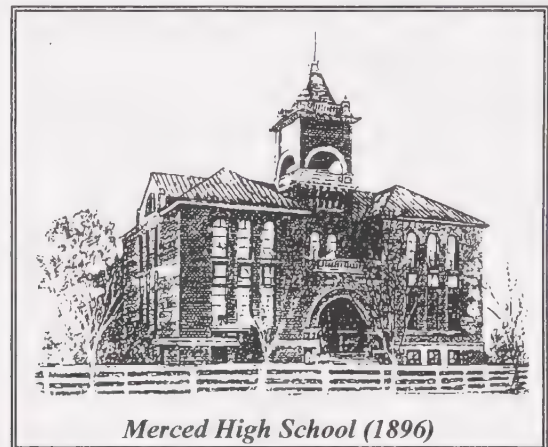


As the City grows, new schools will need to be built to serve our growing population. According to the Development Fee Justification Study prepared by Michael Paoli and Associates for the MUHSD and Merced City Schools in 1990, students are generated by new development at the following rates:

Table 5.1
Student Generation Rates

Unit Type	Elementary (K-8)	High School (9-12)
Single-Family Detached	0.558	0.219
Single-Family Attached	0.380	0.079
Multi-Family	0.220	0.160

On the General Plan Land Use Diagram, new school sites are indicated with green dots, which reflect a general location only based on projected need. In other words, a school should be located in the general area shown but not necessarily in the precise location of the dot. This is done in order to allow the school districts flexibility in locating specific school sites and negotiating with property owners.



School Impact Fee System

In 1986, the California Legislature passed legislation (Government Code Section 53080 and 65995) authorizing local school districts to levy fees on new development at a rate authorized by the State as a method for partially financing the expansion and construction of school facilities made necessary by new growth. The City subsequently began charging these fees on new development. The school districts contended, however, that these fees did not cover the cost of building new facilities caused by growth.

In 1994, the City of Merced and Merced County entered into an agreement with the Merced Union High School District, Merced City Elementary School District, and Weaver Union School District to

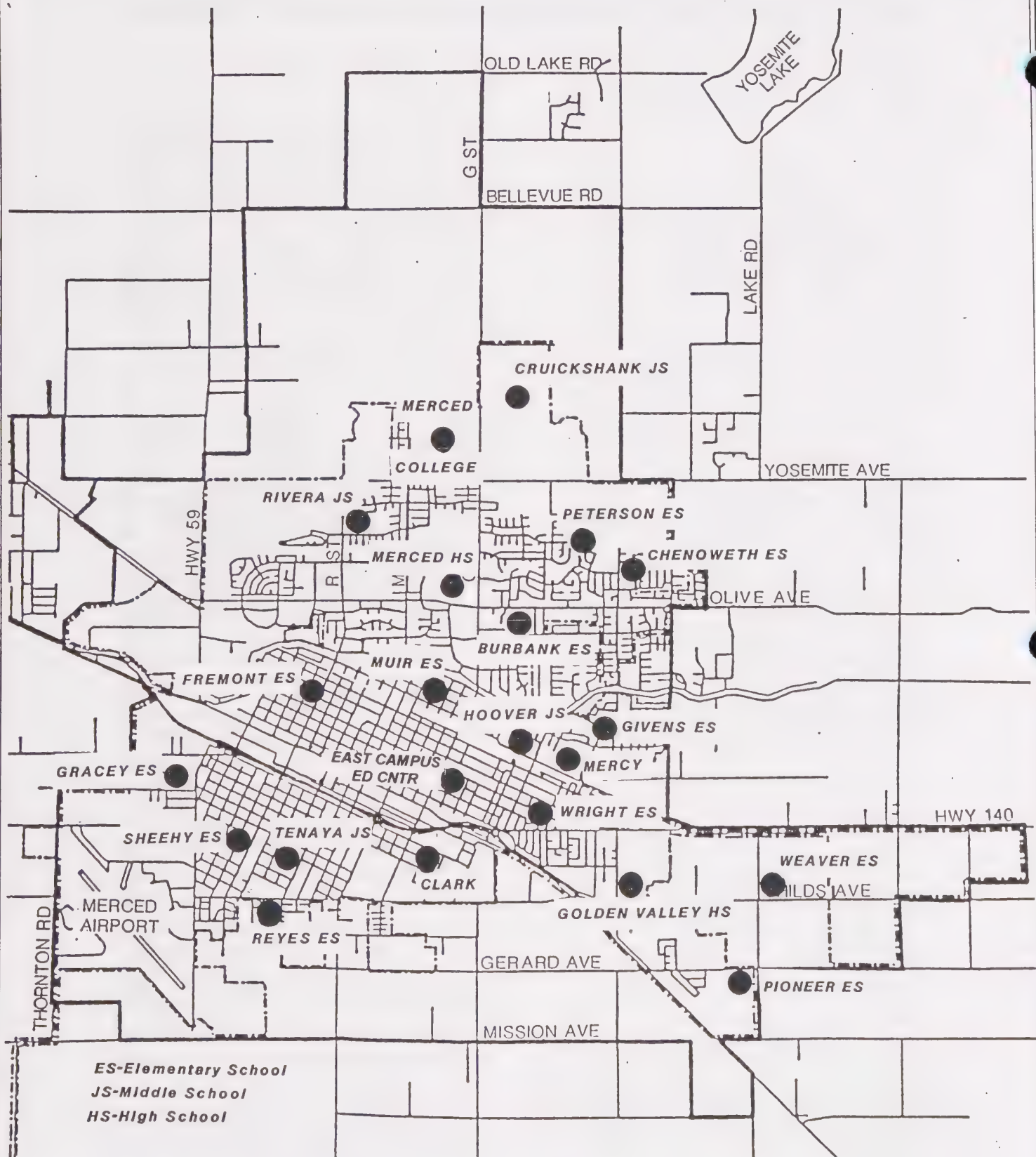


Figure 5.4

Merced Schools



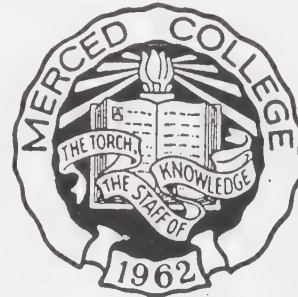
help mitigate the impacts of new growth on schools. The agreement calls for the City or County, prior to granting any new legislative approvals for residential development, to require the developer to enter into an agreement to pay a mitigation fee to the affected school districts. This fee is designed to cover a portion of the costs for providing facilities due to new growth with the remaining portion to be obtained through participation in the State building program, bond measures, etc. This agreement will be reviewed each even-numbered year starting in 1998.

Higher Education

Merced College, one of the California Community Colleges, provides Merced County residents with the opportunities for educational development, cultural enrichment, and personal growth. The College's strong program of academic courses, combined with a wide variety of vocational programs, allows the College to serve the needs of a diverse student population. Two-year Associate in Arts or Sciences degrees as well as Certificates of Completion in selected vocational areas are available, along with other programs designed to transfer to four-year colleges and universities.

The main campus covers over 270 acres and is located north of Yosemite Avenue between M and G Streets. A satellite campus is located in Los Banos to serve the west side of the county. Main campus facilities include classrooms and laboratories, a theater, art gallery, gymnasium, swimming pool, football stadium, tennis courts, library, and agricultural area.

One of the major commitments of Merced College is to provide vocational training to prepare the student for positions within the business and industrial sectors of the community. Examples of these training programs include business and computer science, allied health professions, and industrial technology. In addition, the College provides special training programs for specific local industries such as insurance, welding, truck driving, tool and die, administration of justice, and automotive technology.



Merced College also offers a wide choice of educational and cultural programs, including fine arts presentations, a conservatory theater, escorted trips and tours, the summertime College for Kids program, enrichment classes, and continuing education.

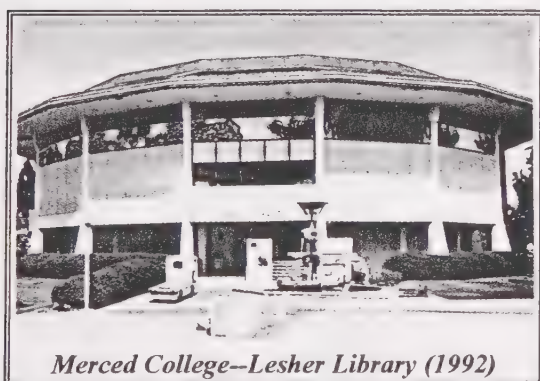
UC San Joaquin (Merced)

The 1995 decision of the Regents of the University of California to locate its tenth campus at Lake Yosemite will greatly expand higher educational opportunities for students throughout the San Joaquin Valley. Discussion regarding the planning of the proposed campus is contained in the Urban Expansion and Land Use Chapters (Chapters 2 and 3) of this document. The provision of public services and facilities to the campus area will be addressed through this planning process.

5.2.8 Library Services & Cultural Facilities

Libraries

The Merced County Library system was established in 1910, and at its peak provided library services at the Main Library in Merced and 18 branch locations throughout the County. The Main Library is located next to the historic Merced County Courthouse at 21st and O Streets. Merced College's Leshar Library also provides limited library services to the public within the City of Merced.



Merced College—Leshar Library (1992)

Since 1993, library services in Merced County have been scaled back by the County. Library hours have been curtailed, acquisitions of new materials have been stopped, many programs have been cut, and personnel have been eliminated. Through the help of the "Friends of the Library" and citizen donations of time, money, and materials, the libraries have been kept open. In early 1997, the City and County adopted a property tax sharing agreement in which the County will receive a share of the tax increment from Redevelopment Project Area #2 specifically for library purposes. The County could receive up to \$8 million from this source through the year 2014.

Cultural Facilities

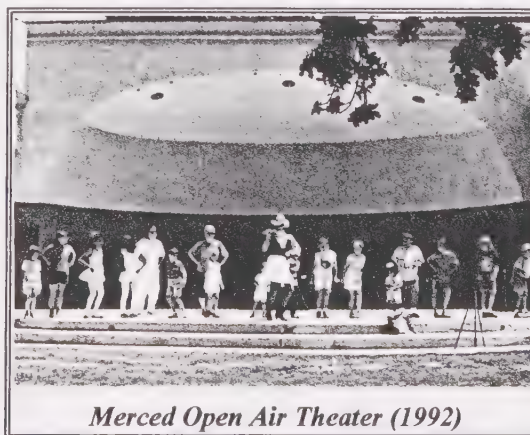
Merced hosts a number of arts facilities and programs which enrich the lives of its citizens. Most of these activities are supported by private funds.



Merced City Planning 50th Anniversary Activity Day (1994)

The Merced County Regional Arts Council is a membership organization governed by an elected board of directors. The Arts Council manages the Merced County Arts Center and Arbor Gallery in downtown Merced. The Council sponsors arts programs for elementary school children ("ArTree"), arts festivals, writing groups, and exhibits.

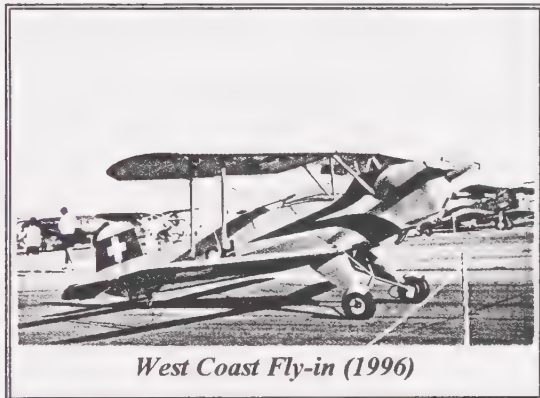
The Merced Open Air Theater (MOAT) in Applegate Park was dedicated in 1989 with funds raised by private individuals and groups. This neoclassical outdoor amphitheater hosts concerts, theatrical performances, and art displays.



Merced Open Air Theater (1992)

The Merced Symphony Orchestra was organized by a small group of musicians in 1958 and has blossomed into one of California's finest community symphonic orchestras. The symphony performs an annual subscription season of concerts and is governed by the non-profit Merced Symphony Association.

In 1995, construction began on the City's Multi-Cultural Arts Center adjacent to the Merced Civic Center. This center, funded by Redevelopment bonds, is a multi-purpose arts facility which is designed to serve the diverse needs of the entire community. The need for such a center was identified in the Downtown Market Strategy (Section 3.5.4). The Theatre on the Square also hosts theatrical performances downtown.



West Coast Fly-in (1996)

Community Activities/Events

A number of annual community events take place in Merced throughout the year. Among these are:

- Rascal Creek Fun Run (March)
- Downtown Bike Race (March)
- Farmers Market (April to September)
- Good Guys Street Rodders (May)
- West Coast Antique Fly-in (June)
- Merced County Fair (July)
- Mercy Gulch Days (July)
- Central California Band Review (November)

5.2.9 Other Public Services & Facilities

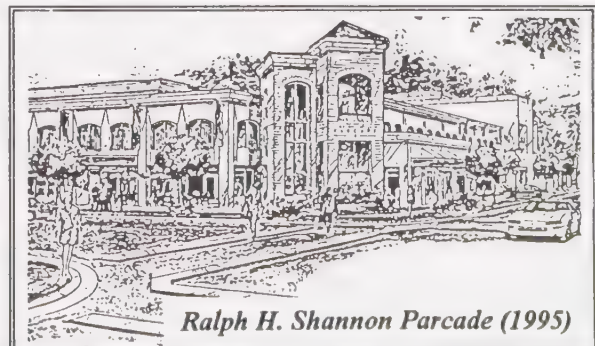
Government Facilities

The City of Merced owns and operates several civic facilities to serve the needs of its citizens. The Merced Civic Center, opened in 1988 and located at 18th and N, houses most City departments, and hosts public meetings of the City Council and other City boards and commissions, art exhibitions, and other civic activities. The City also operates the Transpo Center, the Community Center, the Merced Municipal Airport, the City Corporation Yard, the Ralph H. Shannon Parade, and other City parking lots.

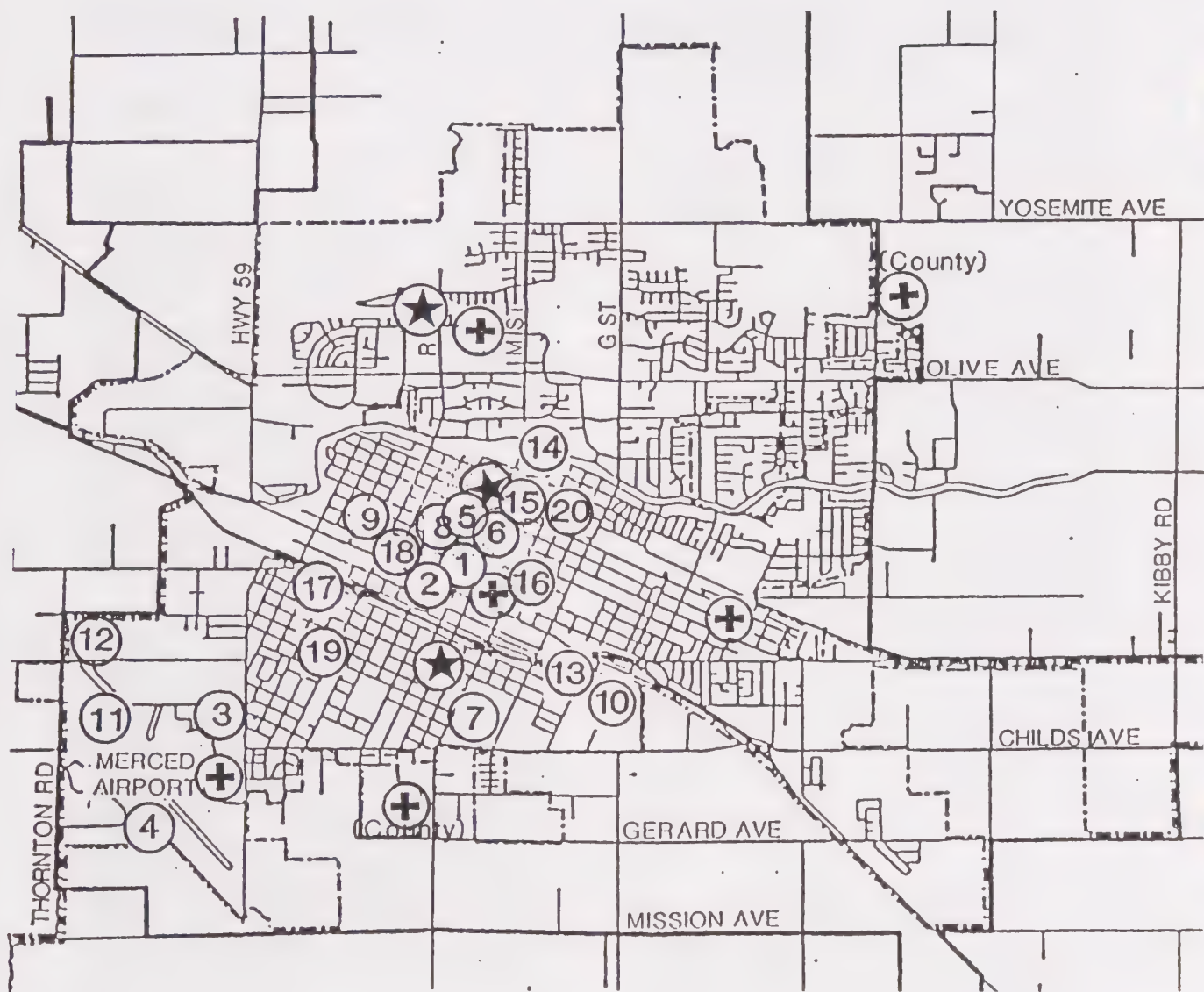


Merced Civic Center (1993)

Other City-owned facilities, such as fire stations, police stations, sports facilities, and parks, are discussed elsewhere in this Public Facilities Chapter and in the Open Space, Conservation, and Recreation Chapter (7).



Ralph H. Shannon Parade (1995)



<u>City</u>	<u>County</u>	<u>Hospitals</u>
1 - Civic Center/ Ralph H. Shannon Parade	5 - Courthouse Museum/ Justice Facilities	13 - Sutter Merced Medical Center
2 - Transpo Center/ Senior Center	6 - County Administration Building	14 - Mercy Hospital
3 - Corporation Yard	7 - Fairgrounds	<u>Others</u>
4 - Merced Municipal Airport	8 - Library	15 - Main Post Office
★ Police Station	9 - Employment Development	16 - Federal Building/Post Office
+ Fire Station	10 - Juvenile Hall/Mental Health	17 - Department of Motor Vehicles
	11 - Animal Shelter	18 - Veterans Memorial Hall
	12 - Human Services Agency/ Equipment Yard	19 - Armory
		20 - Santa Fe Railroad Depot

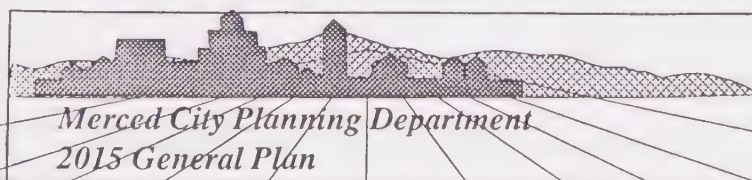
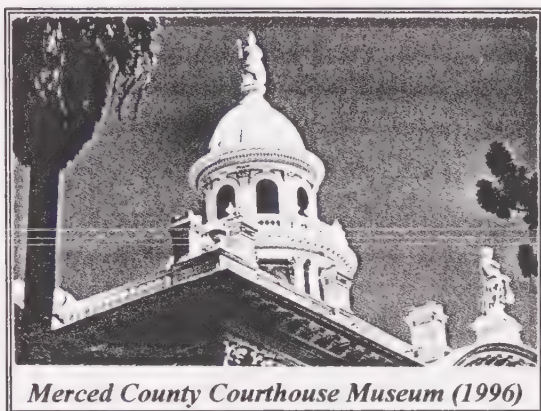


Figure 5.5

Public Buildings

The City of Merced, as the County seat, contains many County- and State-owned government facilities as well. Chief among these facilities are the County Administration Building at M and 21st, the historic Merced County Courthouse and other justice facilities at 21st and N, and the Merced County Fairgrounds at Martin Luther King and Childs.



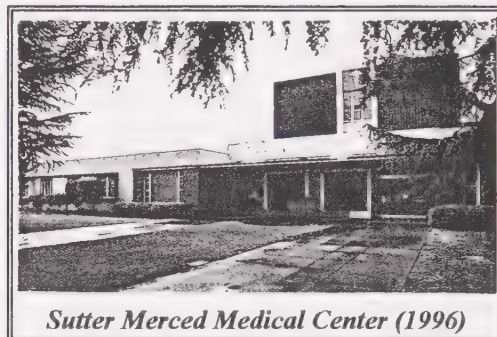
Health Services

The citizens of Merced enjoy good health care provided by Merced's two hospitals, surgical and diagnostic centers, urgent care facilities, convalescent facilities, as well as many fine private physicians.

Mercy Hospital, located on the corner of Bear Creek and M Streets, is the only Catholic hospital in Merced, Madera, Stanislaus, and Mariposa counties. This private, acute care facility was originally established in 1923 but continues to grow to meet the changing needs of modern health care.



Sutter Merced Medical Center (formerly known as Merced Community Medical Center) is located near 13th and D Streets and has served the citizens of Merced County for nearly 120 years. MCMC offers a full-range of in-patient and out-patient services.



Public Utilities & Quasi-public Facilities

Many public services are provided by federal and State agencies at facilities such as the Main Post Office, the Department of Motor Vehicles, and Social Security Office. There are also quasi-public uses, such as churches and non-commercial private schools.



In addition to services provided by the City of Merced and other government agencies, public utilities are also available from other sources. Natural gas and electrical power in the City are supplied by Pacific Gas and Electric (PG&E). Telephone service is provided by Pacific Bell. Cable television is available from TCI Cablevision.

5.3 ISSUES AND INTENT

In order to ensure the provision of high-quality, cost-effective public facilities and services for the City of Merced as it grows, several issues needed to be addressed in the Goals, Policies, and Actions (Section 5.4) of this chapter. A brief summary of the issues covered under each of the goal areas follows.

General public facilities and service issues are addressed under Goal Area P-1. Master planning of major facilities and infrastructure, the cost-effective delivery of existing services, and the requirement for new development to provide its fair share of public improvements are some of the issues covered.



5.3.1 Fire Protection

The location of fire facilities is a critical factor in providing adequate fire protection to the citizens of Merced. The time and distance that must be traveled to the scene of an emergency can determine whether fire suppression efforts will be successful. The goals, policies, and actions (Goal Area P-2) in this chapter address locational criteria and distribution goals for new fire facilities. Additional goals, policies, and actions relating to fire prevention methods, disaster preparedness, and hazardous materials safety can be found in the Safety Element (Chapter 11).



5.3.2 Police Protection

Community-based policing aims to bring police officers into the neighborhoods they serve to try to deter criminal activity before it starts. This chapter includes goals, policies, and actions (Goal Area P-2) designed to implement these concepts. Additional goals, policies, and actions relating to community-based policing concepts and crime prevention can be found in the Safety Element (Chapter 11).



5.3.3 Water

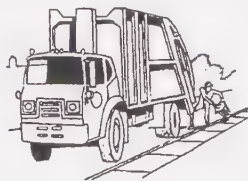
The Merced Water Supply Plan has evaluated the City's water needs through 2030 and suggested strategies for meeting those needs. In cooperation with the County and MID, the City will develop conservation and recharge efforts to stabilize the region's aquifer. The goals, policies, and actions (Goal Area P-3) in this chapter address those efforts. Additional policies regarding water quality and water conservation are contained in Chapter 7, Open Space, Conservation, and Recreation, and a discussion of water resources can be found in the Sustainable Development Chapter (8).

5.3.4 Wastewater Collection & Disposal

The provision of adequate wastewater facilities to serve the City's new growth areas will require master planning for new collection facilities and expansion of the City's treatment plant. These issues as well as the promotion of uses for reclaimed water are addressed in the policies (Goal Area P-4) of this chapter.

5.3.5 Storm Water Drainage and Flood Control

The master planning of facilities for managing and disposing of storm water run-off will be mandated as the City's population reaches 100,000. Working with the County and MID, the City will support a regional approach to addressing this mandate. The goals, policies, and actions (Goal Area P-5) in this chapter address the above efforts as well as designing multi-use (storm drainage, groundwater recharge, flood control, and recreation/open space) facilities.

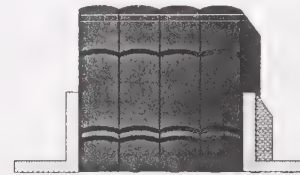


5.3.6 Solid Waste

State law mandates that the amount of solid waste deposited in landfills be reduced significantly in the coming years. The City is committed to working with the County to promote source reduction, material recovery, and recycling programs while at the same time reducing impacts from disposal facilities on City residents. This commitment is reflected in the policies (Goal Area P-6) of this chapter.

5.3.7 Schools

As the City grows, new school facilities will need to be provided. Although the responsibility for providing these facilities resides with the school districts, it is in the City's interest to make sure that schools are adequately sized, centrally located to the populations they serve, and adequately served by infrastructure. The policies (Goal Area P-7) in this chapter address desired school location criteria, the collection of school impact fees, and cooperative planning of higher educational facilities.



5.3.8 Library Services & Cultural Facilities

Library and cultural facilities are essential to maintaining Merced's high quality of life. The goals, policies, and actions (Goal Area P-8) in this chapter reflect the City's support for these services by exploring long-term financing options, planning for new facilities, encouraging joint use of facilities, and promoting public access to information technology.

5.3.9 Other Public Services & Facilities

Government and health-related facilities also provide essential public services which will need to be expanded as the City grows. The goals, policies, and actions (Goal Area P-8) in this chapter encourage the central location of major government facilities in the downtown area and convenient access to health-related facilities for all of Merced's citizens.

5.4 PUBLIC SERVICES AND FACILITIES GOALS, POLICIES, AND ACTIONS

Goal Area P-1: Public Facilities and Services

GOALS

- Maintenance and Improvement of Merced's Existing Infrastructure
- New Development Which Includes a Full Complement of Infrastructure and Public Facilities
- Efficient and Cost-Effective Public Service Delivery

POLICIES

- P-1.1** Provide adequate public infrastructure and services to meet the needs of future development.
- P-1.2** Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary.
- P-1.3** Require new development to provide or pay for its fair share of public facility and infrastructure improvements.

Policy P-1.1

Provide Adequate Public Infrastructure and Services to Meet the Needs of Future Development.

One of the key elements to promoting a healthy local economy in Merced is the quality of life enjoyed by the City's residents. The quality and availability of urban services and infrastructure is found to be an important measure of urban quality.

Implementing Actions:

- 1.1.a** Through development review, ensure that utilities are adequately sized to accommodate the proposed development and, if applicable, allow for extensions for future developments, consistent with master plans.

Improvement standards applied through the development review process should be based upon existing and potential utility needs to a site. The review process will consider both municipal utility services and utility services provided by quasi-public or private utility service providers as much as feasible.

- 1.1.b** Master infrastructure plans for newly developing areas may be prepared and adopted as necessary.

The City may prepare master infrastructure plans for newly developing areas. Individual development proposals will need to develop plans and specifications for accessing planned City infrastructure.

- 1.1.c Include in Specific Plans and master plans, a phasing plan for providing access, sewer, water, drainage, flood control, schools, parks and other appropriate governmental facilities and services.**

A phasing plan helps ensure that adequate service facilities can be accommodated in the planning area and that new facilities and services will be provided in a manner that keeps pace with population growth.

- 1.1.d Construct a stormwater drainage system, water system and sewer system in accordance with master plans.**

Master plans which identify needed infrastructure improvements and extensions, phasing options, cost estimates and potential funding alternatives may be prepared.

- 1.1.e Apply for Federal, State and regional funding sources set aside to finance infrastructure costs to the maximum extent feasible.**

Use of public funding sources to help off-set infrastructure costs could benefit the entire community by increasing housing and employment opportunities.

Policy P-1.2

Utilize Existing Infrastructure and Public Service Capacities to the Maximum Extent Possible and Provide For the Logical, Timely and Economically Efficient Extension of Infrastructure and Services.

It is in the community's interest to maintain an efficient and cost effective public service delivery system. To this end, the City supports development that utilizes and improves existing infrastructure and service delivery systems as much as possible.

Implementing Actions:

- 1.2.a Develop plans which establish priorities to address existing inadequacies in the City's infrastructure system.**

Present sewer, water, drainage and circulation plans need to be periodically reviewed and updated to reflect existing circumstances and to note system deficiencies and possible corrective measures.

- 1.2.b Expand existing facilities to the extent possible at present locations.**

As long as it remains cost-effective, existing facilities (such as the Wastewater Treatment Plant) should be expanded at their present locations to save the cost of obtaining and constructing new facilities. Long term facility development plans should include adequate area for future expansion. Shared or regional facilities are also encouraged where appropriate to avoid duplication of services.

- 1.2.c Periodically evaluate the City's service delivery system and identify policies and programs which may improve operating efficiency and/or reduce service delivery costs.**

The City will on a continuing basis evaluate its service delivery systems to search for ways of improving efficiency and service, reducing costs, etc.

Policy P-1.3

Require New Development To Provide or Pay For its Fair Share of Public Facility and Infrastructure Improvements.

New growth and development within the City is accommodated to assure that adequate space is provided to meet future population growth needs. The City will endeavor to provide for cost-effective new infrastructure and public service expansion to serve that growth. It is the City's policy, however, that new development should not create a financial burden for existing city residents and that all new development should be more self supporting with respect to infrastructure availability, maintenance, and future service provision.

Implementing Actions:

1.3.a Prepare and adopt adequate fee schedules commensurate with the cost of planned improvements and services, with annual review and update.

The City should review and periodically update its public services and facility fee structure to assure that it adequately provides for the maintenance of City service levels.

1.3.b Periodically evaluate the City's service delivery system and identify policies and programs which may be applied to new development to improve operating efficiency and/or reduce service delivery costs.

Design elements and standards for new development should be periodically upgraded to reflect modern technological advances and standards. Standards should be developed to minimize long-term operations, maintenance, and replacement costs.

1.3.c All new development shall contribute its fair share of the cost of on-site and off-site public infrastructure and services as appropriate.

This could include installation of public facilities, payment of impact fees, and participation in a public facilities financing program which may be adopted by the City to provide for development of city-wide public facility needs.

1.3.d The City may require developments to install off-site facilities which also benefit other properties.

The City may establish funding mechanisms to reimburse developers for infrastructure capacity in excess of the fair share costs resulting from a specific development's impacts if these excess facilities are deemed necessary to efficient and orderly development.

Goal Area P-2: Police and Fire Protection Services

GOAL

- **A Community Reasonably Safe From Crime and Fire**

POLICY

P-2.1 Maintain sufficient public protection facilities, equipment, and personnel to serve the City's needs.

Policy P-2.1

Maintain Sufficient Public Protection Facilities, Equipment, and Personnel to Serve the City's Needs.

Public protection services and facilities are to be maintained in the City of Merced at a level that promotes the health and welfare of the city's residents. The City is committed to assuring that facilities, equipment and staffing levels of its fire and police service units meet the highest standard that can be accommodated within the resource constraints of the City.

Implementing Actions:

- 2.1.a** Periodically review existing and potential station facilities, equipment and manpower in light of protection service needs.

Fire-fighting equipment and companies of personnel should be sufficient in number and adequately distributed throughout the planning area in order to allow optimum response time to calls within the primary service areas of a fire station and to ensure prompt availability of additional companies for serious or simultaneous fires. Police service districts should be sized to promote community-based policing concepts and to maintain sufficient personnel to promote crime prevention and to combat criminal activity.

- 2.1.b** Determine that new development is adequately served by fire and police protection services.

Fire stations should be located so that no development in the City is outside the primary response areas (4 to 6 minutes) of at least one firehouse. Development plans should be reviewed with respect to existing and planned future fire station sites and police resources.

- 2.1.c** Fire station sites should be selected based on the distribution of land uses and population projected when the area is fully developed.

Future sites should be located within planned urban service centers based on future use.

- 2.1.d** Ease of access should be a primary consideration in selecting a fire station site.

The following guidelines should be considered when siting new firehouse facilities:

- a) Fire stations should be located on streets close to and leading into major or secondary thoroughfares.
- b) Fire stations should be so located as to minimize delays caused by incomplete street patterns.

- c) A fire station should be near the center of its primary service area, measured in terms of driving time to the periphery of this area.
- d) Fire stations should be convenient to high value areas of commercial or industrial districts, but not located in them unless such a location is necessary to maintain the required service radius.
- e) Fire stations should be located, as much as feasible, away from other uses which may be sensitive to the noise impacts of frequent alarms.
- f) Fire stations and their sites should be designed to fit in with their surroundings, including consideration of open spaces, off-street parking, landscaping, and general appearances, especially when located in residential districts.
- g) In residential service areas, fire stations should be located in or near those sections which have the highest density.

2.1.e Maintain an adequate and reliable water system to serve fire protection needs.

An adequate and reliable water system is a key element in maintaining adequate fire protection to the community. In fact, the adequacy of the water system is one of the criteria used for determining the City's fire protection rating from the Insurance Services Office (refer to Section 5.2.1).

2.1.f Provide fire facilities and related resources to support the "central station concept."

In order to maintain above-average fire insurance ratings, fire facilities should be provided and sited to support the "central station concept" described in Section 5.2.1 of this chapter.

2.1.g Utilize existing community resources, to the maximum extent feasible, in the provision of public protection services.

The City should continue participation in and support in community level crime prevention programs such as the Neighborhood Watch and VIP (Volunteer In Police) programs.

2.1.h Assure that new development utilizes modern public protection concepts in their design and development.

Development review processes should involve public protection service providers in the city. Public protection planning concepts such as "defensible space", security lighting, access, visibility, etc., may be applied to new development to reduce policing problems and improve police effectiveness.

(Notes: Additional policies and implementing actions regarding police and fire protection services can be found in the Safety Element, Chapter 11.)

Goal Area P-3: Water

GOAL

- **An Adequate Water Source, Distribution and Treatment Infrastructure System in Merced**

POLICIES

- P-3.1.** Ensure that adequate water supply can be provided within the City's service area, concurrent with service expansion and population growth.
- P-3.2.** In cooperation with the County and the Merced Irrigation District, work to stabilize the region's aquifer.

Policy P-3.1

Ensure That Adequate Water Supply Can Be Provided Within the City's Service Area, Concurrent With Service Expansion and Population Growth.

The City of Merced has adequate water resources if they are properly managed to meet its future growth needs, according to the Merced Water Supply Plan. These resources need to be managed, however, in cooperation with the Merced Irrigation District (MID). The City of Merced is committed to a program of cooperating in the long-term management of the area's water resources and utilizing policies and programs which conserve and manage water use in such a manner as to maintain the potable quality of the City's system and reduce treatment costs on applications which do not require the use of treated water.

Implementing Actions:

3.1.a Pursue innovative programs to reduce the demand for potable ("drinkable") water.

The City should explore programs for utilizing untreated water since many urban water uses do not require treated, "drinkable" water. Non-treated water can be used for landscape irrigation, industrial processing, and other uses. Possible sources of non-treated water might include: (1) MID surface water supplies; (2) stormwater; or (3) reclaimed water.

3.1.b Update the City's Water Master Plan for the Sphere of Influence Area.

The update should include a detailed analysis of adequacy of existing and planned water distribution and storage facilities to meet minimum pressure and flow requirements throughout the service area and needed expansion to service the UC San Joaquin (Merced) campus and possibly the Smith Trust lands in addition to the 2030 expansion area. The update should also integrate the principles of the *Merced Water Supply Plan* and plan for recharge facilities.

3.1.c Update the City's Water Master Plan to include the entire expanded City SUDP area.

This plan would serve as the basis for calculating development connection fees and establish standards for on-site requirements for water system design on new development projects.

3.1.d Review the current water system maintenance program and coordinate planned water main replacements with the updated Water Master Plan.

Plans must be reviewed in light of needed system upgrades to service an expanded service area and assure that appropriate facilities are resized to meet future demands, rather than replace existing system components without consideration for future requirements. Upgrades and replacements should be scheduled prior to substantial deterioration of facilities in order to avoid service disruptions.

3.1.e Continue to work with Merced Irrigation District and the County of Merced to ensure that adequate water supply and distribution facilities can be developed to meet the growth of the Merced metropolitan area.

Coordination will not necessarily require the development of common water supply and distribution facilities among the agencies involved. The primary goal of such coordination shall be the development of individual agency, or joint agency, programs and facilities that will meet the water supply needs of the current, and future, metropolitan area while protecting the area's valuable natural resource by maintaining a water balance between the extraction of groundwater and recharge to the groundwater aquifer.

3.1.f Continue to support policies and programs which discourage the use of private wells and water systems within the City limits.

Private wells are normally drilled at smaller depths than City-owned wells, which tends to make them more vulnerable to contamination. City wells are also consistently monitored to assure health and safety standards. For these reasons, the City seeks to limit the use of private wells within the City limits.

3.1.g Plan and design water facilities to efficiently serve the City's urban area.

Extension of water service to areas along the City's urban fringe, which are not proposed for long term urban expansion, should not be designed to promote growth in areas to be maintained for agricultural use. Water lines along the urban fringe, however, will need to be adequately sized in order to achieve efficient "looping" and reliability of the water system and adequate fire flow.

3.1.h The City shall not extend water service outside its incorporated limits.

City policy requires that an area be annexed to the City before City water can be provided. Exceptions to this policy include emergencies where public health and safety are threatened or a significant public interest is served, such as the proposed UC campus. (Refer to the Urban Expansion Chapter for other policies which relate to the UC.)

[Notes: The Urban Expansion Chapter (2) includes policies regarding the extension of City services to outlying areas. The Open Space, Conservation, & Recreation Chapter (7) contains policies relating to water quality and water conservation. The Sustainable Development Chapter (8) also contains a discussion of water resources.]

Policy P-3.2

In Cooperation with the County and the Merced Irrigation District Work to Stabilize the Region's Aquifer.

Studies have concluded that the long-term potable water needs of the City can best be served through the use of the area's groundwater resources. To the same degree, there is a need to improve and enhance the ability of agricultural users to utilize surface water resources and to develop groundwater recharge facilities for the long-term stabilization of the regional aquifer. The City has historically cooperated with the Merced Irrigation District to preserve and enhance the regional water resources and is committed to continuing this cooperation.

Implementing Actions:

3.2.a Work closely with the State and County agencies in exploring innovative technology and procedures for water conservation and reuse.

The State Department of Water Resources and Department of Health, along with the County Environmental Health Department, can provide the City and MID with resources and information on innovative water conservation and reuse strategies. The overall goal of the program should be to conserve water pumped from wells and promote development of systems that can utilize non-treated or reused water where appropriate.

3.2.b. Work cooperatively with MID to preserve and enhance its surface water delivery system.

It is important that the viability of the MID irrigation system be preserved and enhanced to assure long term, cost-effective water supplies for area agricultural interests. MID's water rights must also be protected. The long term strategy of promoting surface water use by area farms will reduce agricultural demands on the area's groundwater resources and promote water conservation throughout the region.

The existence of this historic agricultural water use system in the expanding urban area provides a significant future opportunity for the City to develop innovative means of landscape maintenance in addition to meeting some of the area's groundwater recharge needs. This surface water system also provides an important open space element to the city's urban environment.

3.2.c Explore the use of MID water resources for applications that do not require treated water to reduce demand on the regional groundwater supplies and reduce costs of water treatment.

By using surface water for uses such as landscape maintenance that do not require treated water, the City can reduce its demand on regional groundwater supplies and perhaps reduce the costs of water treatment.

3.2.d Cooperate with MID and the County in the development of groundwater recharge facilities as called for in the Merced Water Supply Plan.

Groundwater recharge has been identified in the Water Supply Plan as the key to maintaining an adequate water supply into the future. Groundwater recharge can operate in conjunction with park and open space facilities incorporating the development of recreational lakes and use of stormwater retention basins for summer recharge programs. These recharge facilities should be designed to be multi-use facilities within the Merced urban area where feasible.

3.2.e Obtain, purchase or preserve rights to open space such as transitioning agriculture lands for proposed major treatment plants, ground water recharge and storage facilities.

Comprehensive facility plans should identify potential sites.

Goal Area P-4: Wastewater

GOAL

- **An Adequate Wastewater Collection, Treatment and Disposal System in Merced**

POLICIES

- P-4.1** Provide adequate wastewater collection, treatment and disposal capacity for projected future needs.
- P-4.2** Consider the use of reclaimed water to reduce non-potable water demands whenever practical.

Policy P-4.1

Provide Adequate Wastewater Collection, Treatment and Disposal Capacity for Projected Future Needs.

Future growth and development will rely on the availability of wastewater system capacity. The City is committed to keeping the City's system current with respect to present and projected future needs of the growing urban area.

Implementing Actions:

4.1.a Maintain the existing wastewater system to increase the lifetime of the system.

The City will utilize modern wastewater system management technology to identify deteriorating system components and replace or repair worn equipment as required. Plans for increasing the capacity of the City Wastewater Treatment Plant at its present location are in place.

4.1.b Develop wastewater master plans to serve future Merced urban expansion.

The North Merced Wastewater Master Plan, adopted in 1982, covers the 1981 SUDP area; it will need to be updated to cover the expanded SUDP area along North Highway 59. Master plans for South and Southeast Merced are scheduled to begin preparation in mid-1996. These plans will include options for serving the UC San Joaquin (Merced) campus site. Subsequent amendments should incorporate the long-term needs of the City's Sphere of Influence, the Merced 2030 expansion area, and the Smith Trust properties surrounding the campus site.

4.1.c Design wastewater collection systems that discourage development of prime agricultural soils.

Sewer facilities shall be designed to serve the SUDP area and future expansion areas only. This would include reducing collection system size to restrict capacity of sewer lines as they extend towards areas which are outside the City's SUDP and not planned for long term expansion of the City where feasible.

4.1.d Coordinate wastewater planning activities with the County.

The City and County should develop a joint strategy for accommodation of development in the County Rural Residential areas along the City's SUDP boundaries to minimize ground water contamination from septic tank systems. Additionally, development proposed within the City's SUDP and not yet annexed to the City or proposed within an area which will be used for future municipal expansion should be reviewed by both the City and County to assure its future compatibility with the City's wastewater collection, treatment and disposal plans. Plans for servicing the UC campus should also be coordinated.

Policy P-4.2

Consider the Use of Reclaimed Water to Reduce Non-Potable Water Demands Whenever Practical.

In future years, the urban expansion area of Merced may require the development of additional wastewater treatment systems as part of a long-term comprehensive wastewater treatment plan. In the event that new systems are proposed, their design should incorporate beneficial use of treated wastewater. It is necessary that other development components also be planned to incorporate the potential to utilize reclaimed water as a primary or secondary disposal process.

Implementing Actions:

- 4.2.a Consider designs for reclaimed water systems, including pipelines, pump stations and storage ponds, to primarily serve as irrigation for feed and fodder crops.**

Design would be dependent upon proximity of the system to agricultural use areas.

- 4.2.b Consider conducting a reclaimed water market study to identify potential users.**

Potential users include cemeteries, industrial users, agricultural irrigation, golf courses, and transit corridor parkways. The use of reclaimed water as a part of the overall groundwater recharge strategy for the region can also be studied. In general, the use of reclaimed water for uses that have a high degree of evapo-transpiration (landscape irrigation) are more desirable for reuse strategies than groundwater recharge provided that adequate levels of treatment can be obtained to meet state health guidelines.

- 4.2.c Consider preparing a plan for the use of reclaimed water which evaluates the facilities and costs required to serve potential users, determines required capacities of facilities, and presents an implementation plan.**

As part of the long-term wastewater service plan for the City's expansion areas, the use of reclaimed water should be studied as one of the alternatives to wastewater disposal with an analysis of additional treatment costs, costs of delivery of reclaimed water to a beneficial user, etc.

Goal Area P-5: Storm Drainage and Flood Control

GOAL

- **An Adequate Storm Drainage Collection and Disposal System in Merced.**

POLICIES

- P-5.1** Provide effective storm drainage facilities for future development.
- P-5.2** Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.

Policy P-5.1

Provide Effective Storm Drainage Facilities For Future Development.

Merced is located in an area with little relief which results in poor drainage and potential flooding during peak storm events. The City presently relies on a combination of natural drainage courses, MID canals and stormwater retention basins to manage storm waters. Urban expansion will require development of new long-term stormwater facilities in the City's urban area. The City is committed to providing overall coordination for the management of stormwater within its urban limits and working cooperatively with other agencies in resolving regional stormwater management problems.

Implementing Actions:

- 5.1.a** Continue to implement, along with MID and Merced County, the *Merced County Critical Area Flooding and Drainage Plan* within the Merced urban area under the overall jurisdiction of the Merced County Flood Control District (MCFCD).

The City of Merced and its proposed SUDP is located within an area served by the MCFCD Plan. The City and County implement the plan at the project level and have jurisdiction to the point of discharge into a disposal system. Detention basins are to be developed and maintained under the jurisdiction of the City and County within the Merced urban area. The Merced Irrigation District has jurisdiction of flood waters deposited within its canal system and the MCFCD has responsibility for water deposited in the area's natural drainage channels.

- 5.1.b** Work with the MCFCD, MID and the County to update the *Merced County Critical Area Flooding and Drainage Plan* to account for changes in expected storm drainage runoff due to expanded land uses within the Merced area.

The *Merced County Critical Area Flooding and Drainage Plan*, adopted in 1983, does not include the UC San Joaquin (Merced) campus site, the Smith Trust property around Lake Yosemite, or parts of the City's proposed SUDP. The system, as it passes through the Merced SUDP, will need to be reevaluated in light of new development plans.

- 5.1.c** In cooperation with MID and the County, prepare a storm drainage master plan to meet the requirements of the Clean Water Act.

When a jurisdiction's service area reaches a population of 100,000, the Clean Water Act requires that a storm water discharge permit be obtained. These permits are issued by the Regional Water Quality

Control Board. In order to meet the requirements of the board, a master plan which deals with the management of storm drainage facilities must be prepared. Since drainage issues cross jurisdictional lines, it is best to deal with these issues on a regional level. Therefore, the City of Merced will work with MID and/or the County to prepare a regional plan which will be designed to serve the needs of existing and future City development.

5.1.d Continue to require all development to comply with the Merced County Critical Area Flooding and Drainage Plan and any subsequent updates.

All new development proposals will be reviewed for consistency with the plan and shall be responsible for construction of stormwater retention basins, collection, treatment and disposal facilities necessary to adequately support the project. Where development is proposed in an area which lacks basic drainage infrastructure at present, the development project may be required to construct the necessary improvements with non-project related costs to be reimbursed as other development occurs in the area.

5.1.e Installation of facilities necessary to provide services to development projects will be based on the full buildout scenario.

Short-term or intermediate flood control and storm drainage facility improvements can result in higher long-term costs for ultimate system development and result in short-term flooding on adjacent areas. At the same time, if it can be demonstrated that an immediate development project's stormwater can be contained completely on-site without off-site impacts to the regional drainage system, such proposals can be approved provided that the project contribute its fair share towards the regional flood control and drainage system.

Policy P-5.2

Integrate Drainage Facilities With Bike Paths, Sidewalks, Recreation Facilities, Agricultural Activities, Groundwater Recharge, and Landscaping.

In order to provide for the most cost effective infrastructure development and maintenance strategy, the City is committed to a program of developing facilities that can accommodate multiple uses. To this end, the City will identify multiple use sites throughout the Merced SUDP expansion area.

Implementing Actions:

5.2.a Provide drainage channels in transportation or canal easement areas as much as feasible.

Reflect the planned regional street and open-space network to the degree possible when siting new future drainage facilities.

5.2.b Stormwater detention and groundwater recharge ponds should be designed to appear natural in character as much as feasible and dual use of recreation facilities should be promoted where conditions are compatible.

The City's Recreation Master Plan will be updated to include design criteria and standards for these joint use facilities. Such criteria could encourage the use of rounded or sculpted edges, natural materials, and abundant landscaping while accommodating efficient storm drainage.

Goal Area P-6: Solid Waste

GOAL

- **Solid Waste Management Services That Accommodate the Local Population Without Causing Significant Damage to Environmental Resources**

POLICIES

- P-6.1** Establish programs to recover recyclable materials and energy from solid wastes generated within the City.
- P-6.2** Minimize the potential impacts of waste collection, transportation and disposal facilities upon the residents of Merced.

Policy P-6.1

Establish Programs to Recover Recyclable Materials and Energy From Solid Wastes Generated Within the City.

State law mandates that the waste stream be reduced significantly in coming years and that local governments implement programs and activities to accomplish this objective. The City of Merced deems that it is in the City's long term interest to support efforts to reduce the amount of solid waste deposited in the County's landfill site and support private and public recycling efforts.

Implementing Actions:

- 6.1.a** Implement source reduction and recycling programs to minimize waste at the point of manufacture or use.

Such programs could include the following: 1) Working with County officials to implement citywide recycling efforts for homes and businesses. 2) Supporting public and private recycling efforts to divert wood, leaves and yard waste from being deposited in the landfill site. 3) Assisting the private sector wherever possible in developing methods for the reuse of inert materials (concrete, asphalt and other building materials waste) which currently use valuable landfill space and increasing resource and material recovery from solid wastes.

- 6.1.b** Work with County officials in seeking federal and state funds for projects utilizing resources and material recovery processes.

Support County efforts to obtain grants and loans to subsidize recycling center operations and to market recycled materials in the Merced urban area.

- 6.1.c** Participate in resource and material recovery studies.

Support County-initiated efforts to study the region's waste stream and develop recovery methodologies that will facilitate and promote recycling and reduce the volume of waste material deposited in the County landfill site.

Policy P-6.2

Minimize the Potential Impacts of Waste Collection, Transportation and Disposal Facilities Upon the Residents of Merced.

The County's landfill is located on the western side of the City's 2030 expansion area along Highway 59. This facility will most likely be in operation well into the next century and will impact development and growth on the City's northwestern edge. It is in the City's interest to work closely with Merced County on solid waste reduction programs and to develop strategies for protecting the existing landfill site from encroachment by non-compatible uses.

Implementing Actions:

6.2.a Intermediate processing facilities and materials recycling facilities should be distanced and buffered from sensitive land uses.

Where feasible, intermediate waste processing facilities and materials recycling facilities should be sited in or adjacent to compatible heavy commercial or industrial areas, with access to major roadways.

6.2.b Cooperate with Merced County to implement recommendations for source reduction programs which have the least environmental and economic impacts on the City and its residents.

The City development review process should incorporate policies and programs for waste collection points and waste transfer points which minimize traffic, noise, and other adverse impacts on surrounding areas. The City will cooperate with the County on implementing actions directed at reducing solid waste and to promote community awareness of recycling program activities and services available in the City.

6.2.c Continue implementation of programs in cooperation with the County of Merced to meet solid waste diversion goals.

The City's waste reduction efforts should be designed to complement County efforts.

(Notes: Policies regarding hazardous materials disposal are included in the Safety Element, Chapter 11.)

Goal Area P-7: Schools

GOAL

- **Adequate School Facilities for All Students in the Merced Urban Area**

POLICIES

- P-7.1** Cooperate with Merced Area School Districts to provide elementary, intermediate and high school sites that are centrally located to the populations they serve and adequate to serve community growth.
- P-7.2** Support higher educational opportunities.

Policy P-7.1

Cooperate With Merced Area School Districts to Provide Elementary, Intermediate And High School Sites That Are Centrally Located to the Populations They Serve and Adequate to Serve Community Growth.

While the primary responsibility of providing education services in the City of Merced belongs to the various school districts which operate in the community, the City can provide an important element of support to education service providers. In a time of limited resources, cooperative arrangements between all levels of local government are essential to maintaining and enhancing service levels. The City of Merced is committed to working cooperatively with local educational service providers, both public and private, in the improvement of the educational resources available to City residents.

Implementing Actions:

- 7.1.a** Facilitate involvement of the School Districts during the site planning for new growth areas to ensure that school facilities are adequately sized, and located to serve the projected needs of the area according to the standards of the appropriate school district.

The planning and site plan review for the development of new growth areas should involve school planners at an early point in the process.

- 7.1.b** Explore opportunities for new school facilities, located in urban centers, to include joint use facilities for other City, County and secondary education service provider programs and services.

The purpose of developing “joint use” facilities is to reduce facility construction and operating costs for local public agencies. Joint use facilities may require development of joint powers agreements between participating agencies. Normally a joint use facility would involve design components which would exceed individual agency needs and therefore increase overall facility costs; however, joint use facilities may reduce total costs for facility development and operation. Individual facility studies would need to be conducted on facility designs to assure a positive cost benefit to the agencies involved.

- 7.1.c. In general, schools should be located within neighborhoods near parks, bikeways, and other open space amenities. In urban village areas, schools should be located adjacent to Village Core Residential (higher density) areas.**

Schools should be sited near open space areas such as parks and bikeways in order to promote joint use of facilities and good bicycle and pedestrian access. In urban villages, schools should be located adjacent to the “Village Core Residential” areas where densities are higher.

- 7.1.d Monitor the residential growth within the City and make that information available to the local school districts to facilitate school planning efforts.**

The City will work closely with the school districts, Merced County Association of Governments, and the County of Merced to assure that adequate demographic projections are developed and maintained to facilitate school planning efforts

- 7.1.e School Districts will select new school sites consistent with the Land Use Diagram and based on its own site selection studies in coordination with the City of Merced.**

The City’s General Plan Land Use Diagram identifies general areas where school facilities are expected to be needed based on proposed land uses. Specific sites would only be designated after the school district’s site selection process has resulted in a site being obtained by the district to provide the district with maximum flexibility in obtaining new school sites.

- 7.1.f Designate specific school site locations on the Land Use Diagram as needs and sites are identified and ensure their compatibility with adjacent development.**

Once the school districts have selected and obtained school facility sites, the City shall review existing land use plans to assure compatibility with the proposed site. Development permits adjacent to, or in the immediate vicinity of, a proposed school site will be reviewed to assure that the site’s use as a school is not unnecessarily limited.

- 7.1.g Elementary school sites should be encouraged to locate on collector streets near but not directly on major streets.**

New elementary school sites should not result in the creation of hazards for city residents or students. The City will work with the school districts to ensure that safe, adequate access is provided to school sites. This will best be served by locating schools on collector streets where access is good but lower traffic speeds lead to a safer environment for students walking to school. At the same time, schools should be located near arterials but not on them, so that bus transportation to the school will not unnecessarily disrupt residential neighborhoods. Off-street passenger loading and unloading areas should be encouraged. Good pedestrian and bicycle access is also an important factor to be considered. Future school sites should have as many sides fronting on streets as possible.

- 7.1.h Cooperate with the school districts to ensure that school facility impact fees are collected.**

The City shall work closely with the school districts in the management of the School Impact Fee system.

- 7.1.i Work with the school districts to obtain adequate funding for infrastructure improvements on and adjacent to school sites.**

The City will work with the school districts to ensure that funding for school construction includes mitigation of off-site impacts, such as traffic signals, sidewalks, and street improvements.

Policy P-7.2

Support Higher Educational Opportunities.

The City of Merced is fortunate to have been selected as the home of the tenth University of California campus. This major educational facility will enhance the present higher educational resources of the area (CSU-Stanislaus, CSU-Fresno and Merced Community College) and provide new and expanded opportunities for the area's residents. The City is committed to promoting these institutions and facilitating their growth and development.

Implementing Actions:

7.2.a Work with Merced Community College to ensure that facilities and grounds are available to meet future student needs.

The City should participate, as required, with Merced Community College planning efforts. The City will provide assistance in obtaining necessary campus development permits.

7.2.b Work closely with both the Merced Community College District and University of California Chancellor's Office to assure that adequate community infrastructure is available to meet their institutional needs.

The City's street system, along with water, sewer, and drainage systems, serve the existing Merced Community College campus site and may serve the new UC San Joaquin (Merced) campus site. The City will work closely with Merced Community College and the UC system on future campus expansion and development plans, coordinate infrastructure extension, and upgrade programs to meet the development needs of these two campuses to the maximum extent feasible.

7.2.c Work with the County and UC San Joaquin (Merced) planning staff in the preparation of necessary plans and studies for the development of the UC campus site and grounds.

Land use on the UC San Joaquin (Merced) campus site will be under the jurisdiction of the Regents of the University of California with only limited review available to the City or Merced or the County. There is a need, however, to assure that infrastructure planning (sewer, water, drainage systems) and circulation system planning be well integrated with existing and planned City and County systems. The City will work with UC staff, and the County of Merced, to provide assistance in matching campus needs with City resources.

Goal Area P-8: Cultural and Community Services

GOAL

- **Support for Cultural and Community Services that Improve and Maintain the Quality of Life for the Residents of Merced**

POLICIES

- P-8.1** The City will support the cultural and health related needs of the community by incorporating such facilities and services in development and redevelopment proposals.
- P-8.2** The City shall promote consolidation of complementary or support services to avoid duplication of programs.
- P-8.3** Work with others to study innovative ways of delivering library services at the neighborhood level to promote community education and provide a focus for community activity and cultural development.

Policy P-8.1

The City Will Support The Cultural and Health Related Needs of the Community by Incorporating Such Facilities And Services in Development And Redevelopment Proposals.

The long term vision of the City of Merced is that of a major urban center in the San Joaquin Valley. With growth come the normal problems of urban expansion but along with the problems come expanded opportunities. Facilities and services which are not practical for a mid-sized community can be supported in a larger metropolitan area. With the development of the UC San Joaquin (Merced) campus, many new cultural resources will become available in the City of Merced. The City's vision is to plan for the development of facilities which complement the expanded community resources and reflect the future status of Merced as a major metropolitan area in the region .

Implementing Actions:

- 8.1.a** Encourage a range of health related facilities in Merced to meet the needs of a growing and aging population, including rehabilitation centers, walk-in medical centers, and full service hospitals.

The City will periodically review its development regulations to insure compatibility with current medical technology and service delivery philosophy.

- 8.1.b** Encourage the planning and implementation of a multi-cultural and performing arts program and facilities in the downtown area of Merced.

The City will work closely with civic groups and other public agencies in the development and operation of this facility.

8.1.c Examine the needs for developing youth services programs and supporting facilities.

Youth services and center facilities may be integrated into joint use facilities and operated in cooperation with the Parks and Recreation programs, or separate programs and facilities may be developed as desired.

8.1.d Review the long-term feasibility of development of a motel/convention center in the downtown core area.

The center could be developed as a public/private partnership project scaled to meet the present and future needs of the region.

Policy P-8.2

The City Shall Promote Consolidation of Complementary or Support Services to Avoid Duplication of Programs.

The City of Merced recognizes that local governments will be increasingly faced with limited resources and increasing demands for community services in future years. New ways of providing cost effective public services must be explored if existing service levels are to be maintained. A key element in any effort to improve the cost effectiveness of providing public services is the facilities that are developed to house service providers. The Urban Village model of development provides a unique opportunity to explore innovative public service delivery systems. The City of Merced will be exploring means by which to maximize the utility of this planning concept.

Implementing Actions:

8.2.a Within the Urban Village Core areas, senior centers, satellite libraries, adult education, recreation and/or other public facilities should be located in proximity to each other in the Village Core mixed-use areas to allow for integrated activities.

Specific plans, site plans and other development plans for Village Core areas should be reviewed to assure that adequate area is available for the development of these types of uses. Not every village will have these facilities; but if the need for such facilities exists, they should be located in core areas where they will serve the population most efficiently.

8.2.b Target downtown Merced as the central location for public and government facilities in the City (e.g., County and City government centers, civic center, post office, hotel/conference center, department of motor vehicles, federal and state offices, etc.).

These facilities should be located in close proximity to, or adequately served by, public transportation services.

8.2.c Encourage day care centers to locate near schools and employment centers to allow for before and-after-school care and one stop convenience for pre-school/daycare facilities for toddlers and infants.

Day care facilities should be located in areas with similar uses like schools to allow convenient drop-off by parents. Locating day care facilities near employment centers will also help reduce unnecessary vehicular trips and to facilitate parental involvement.

8.2.d Promote the development of shared cultural and recreational facilities between the community and local educational facilities.

Work with local school districts and secondary education institutions to develop cultural and recreational facilities that can be available for local community purposes.

8.2.e Continue to encourage parks to be located adjacent to schools in order to promote the joint use of buildings and sports facilities.

New park site development shall give priority consideration to sites located near school campuses. The City shall work with local school districts to develop joint use sports facilities with shared development, operation and maintenance responsibilities.

Policy P-8.3

Work with Others to Study Innovative Ways of Delivering Library Services at the Neighborhood Level to Promote Community Education and Provide a Focus for Community Activity and Cultural Development.

Library services are an important element of any community's cultural resources. Technological developments has created new opportunities to deliver information at the neighborhood level in an efficient and cost effective manner. This technology, coupled with community education outreach programs, cultural, recreation and civic programs, create new opportunities. The community is committed to improving the quality of its cultural resources, such as library services, and will study and evaluate means by which this can be accomplished.

Implementing Actions:

8.3.a Explore ways to incorporate "information access" into public facilities and buildings.

Public facilities located in neighborhoods, such as fire stations, police stations, parks, etc., can provide important opportunities for providing public access to information resources. The location of computer terminals or kiosks in these facilities should be considered to allow ready public access to information on City business, library services, cultural and historical attractions, etc.

8.3.b Work with the County of Merced to define an efficient means of maintaining and delivering library services within the Merced urban area.

In early 1997, the City and County adopted a property tax sharing agreement in which the County will receive a share of the tax increment from Redevelopment Project Area #2 specifically for library purposes. The County could receive up to \$8 million from this source through the year 2014. The City will continue to work with the County to explore other options for maintaining library services for Merced residents.

8.3.c Explore cooperative library facility development with local school districts and secondary education institutions.

The City and education institutions can study means by which joint powers authorities can be established for development of new joint use facilities.

8.3.d Explore the expansion of the City's telecommunications resources to encompass access to City documents and other resources.

Utilizing commercial and/or business sponsored telecommunications media, the City can promote community access to municipal affairs which can also support limited library resource and referral services available at the neighborhood level.

5.5 ISSUES REQUIRING FURTHER STUDY

5.5.1 Public Facilities Financing

Since the passage of Proposition 13 in 1978, California cities have been faced with unprecedented challenges in financing capital improvements necessary to community growth. No longer can cities simply adjust property tax rates to raise needed money. Instead, cities have turned to a variety of other means to finance critically needed facilities.

Merced is no exception to this problem. Because Merced has grown rapidly since 1980--at roughly double the State's growth rate--the community is having problems keeping up on capital facilities such as roads, bridges, and parks. The projected growth of the community, including the new University of California campus, far outpaces the amount of money available to pay for this needed infrastructure.

The City has traditionally financed needed capital facilities from its General Fund, grants from State and federal governments, developer contributions, sewer and water funds accumulated from user fees, and some miscellaneous sources. The City's General Fund, however, is under increasing pressure just to pay for City operations. State and federal grants are decreasing. Other sources of revenue are basically driven by development, but are small in comparison to the size of the overall need. A gap continues to widen between the existing base of revenues and the needs for funding.

In recognition of this need, the Public Facilities Financing Study was launched. This comprehensive study's objective is to determine how the City can fund its projected public facilities needs over the life of this General Plan (approximately 20 years). A public facilities financing plan, which defines projects, prioritizes those projects, and establishes funding for those projects, is the desired result of this process.

Among the potential revenue sources being explored to fund public facilities are:

- voter-approved general obligation bonds;
- a voter-approved half-cent sales tax for transportation;
- increased development fees;
- impact fees for new development;
- increased user fees; and,
- a utility user tax.

Once the Public Facilities Financing Plan is complete and adopted, it will need to be reviewed annually to make sure that the service and infrastructure priorities of the community are being met as Merced grows.

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(7/11/96)





Chapter 6

Urban Design

6.1 INTRODUCTION

6.1.1 Background & Scope

Urban design is not merely a set of urban aesthetic guidelines but rather encompasses land use and design elements which enhance the livability of the community. Urban design is a grouping of concepts and guidelines which are used to describe the image or character of the City's environment.

Urban design concepts tend to fall into two distinct categories, relating to:

- ◆ The location of different land uses throughout the city and their relationship to one another. (For example, Policies UD-1.1 to UD-1.5 define relationships between commercial, residential, and public land uses and the planned circulation system which links them with one another.)
- ◆ The visual character and appearance of individual buildings, sites, and districts. (Policy UD-2.2 and the "Merced Urban Design Guidelines" pages throughout this chapter provide aesthetic guidelines for development.)

In attempting to influence the type, location, and character of both private and public development, urban design policies provide the tools to help create a desirable relationship between new and existing development.

Within the *Merced Vision 2015 General Plan*, the urban design focus for new growth areas is primarily defined by the *Urban Village* concept (mixed use, pedestrian and transit-friendly neighborhoods). At a city-wide scale, this urban design concept defines the relationship between various parts of the City, linked together by open space and transportation corridors.

At the neighborhood scale, the Urban Village concept results in development of commercial centers surrounded by residential areas, open space, and public facilities. At the project scale, this concept is intended to provide ideas which can be applied to solve a number of design problems and promote long-term, livable community development.

The goal is to build an environmentally and economically "sustainable" city. A "sustainable city" is a city designed, constructed, and operated to efficiently use land and other natural resources,

minimize waste, and manage and conserve resources for the use of present and future generations.

A “sustainable” community is one where:

- 1) housing, schools, shopping areas, and other things which meet most of the daily needs of residents are located within walking distance of one another;
- 2) higher population densities are located around transit stops to provide the critical mass of people and activities needed to make transit economically viable;
- 3) housing provides places to live for a variety of people within a single neighborhood; and
- 4) mixed use and transit friendly commercial and employment centers are promoted.

Such a community makes efficient use of land and promotes alternative modes of transportation, thus helping to preserve both our air quality and our quality of life. These same characteristics can also be used to describe many of Merced’s older neighborhoods.

6.1.2 Relationship to State Law

Urban design is of critical importance to the decisions that are made regarding general growth and development of a city. Although not a “required element” under state planning law, “good” urban design is the overall purpose of the planning process.

6.1.3 Relationship to Other General Plan Chapters

Within the *Merced Vision 2015 General Plan*, the Urban Design Chapter focuses on the Urban Village concept. Village

development will be guided by the principles in this Urban Design Chapter. Other chapters of the General Plan, especially the Land Use Chapter, reflect the community planning principles described in the Urban Design Chapter. Within all of the General Plan chapters, the idea of a “sustainable city” and the design principles for pedestrian- and transit-friendly development have been given specific application in the form of goals, policies and actions relating to the chapter subject area.

6.2 GUIDING PRINCIPLES

The *Urban Village* and other land use and design concepts have been implemented in the *Merced Vision 2015 General Plan* through the following guiding principles:

- ***Conserve natural resource areas that give form and character to the community.*** The policies contained in the Open Space, Conservation & Recreation Chapter, as well as others, provide for strengthening the visual and physical connection between the city and its natural elements. The Urban Expansion Chapter guides future City growth away from important resource areas.

- ***Promote an urban form that integrates housing, shops, work places, schools, parks and civic facilities.*** The Urban Village development approach, as set forth in the Land Use Chapter and Land Use Diagram, is the primary means of implementing this principle. Within this land use pattern, development is to be guided by the principles contained in this Urban Design Chapter. Land use planning needs to address long-term as

well as short-term needs for a variety of residential, commercial, and industrial land uses.

- ***Reinforce the elements of the community which give Merced its unique identity.*** Through purposeful acts of community building at the City's inception, Merced developed into an attractive community. The Village development concept expands on these successful early planning efforts to assure that future growth and development retains Merced's unique character.

- ***Expand the city's non-vehicular transportation network.*** Through provisions contained in the Transportation and Circulation Chapter and supporting policies in other chapters of this Plan, the City's extensive system of bike and pedestrian paths will expand to serve new growth and development.

- ***Promote convenient pedestrian and vehicular access to transit, commercial, recreation and residential places.*** The success of the City's urban design approach relies on private development which provides convenient vehicular access but is also pedestrian-friendly. This Urban Design Chapter proposes various design approaches which will improve access and encourage walking and bicycling as viable transportation alternatives.

- ***Reinforce the downtown as a focus point in the City.*** Downtown Merced plays an important role in the social and economic well being of the community. As the seat of government for Merced County, the downtown area supports a regional government center. Additionally, the downtown area is the direct

access point to regional highway and railway networks. Policies contained in the various chapters of this plan strengthen the role and function of Merced's downtown area.

- ***Conserve the special qualities of existing neighborhoods and districts.*** The distinctive character of Merced's older residential neighborhoods is one of the most memorable features of the community. The Land Use Chapter of this plan provides policies for maintaining these qualities. The policies and design proposals of this Urban Design Chapter provide a basis for developing these qualities in new and expanding neighborhoods.

- ***Focus residential, commercial and employment center development to encourage public transit use.*** Successful urban centers of the future will be designed to accommodate local and regional public transportation systems. This public transit focus is a central theme of the City's urban design concept. Urban design policies which facilitate transit friendly development as well as convenient vehicular access are contained in the Land Use, Transportation, and Urban Design Chapters of the *Merced Vision 2015 General Plan*.

- ***Maximize the use of city streets as public spaces.*** The streets of Merced comprise the major open spaces of the city and are among its liveliest public spaces. Design considerations should focus on providing convenient automobile access to residential, commercial, employment, and public areas while accommodating other forms of transportation as well. Policies

walking distance (about 1/4 mile) from the Core Commercial area and transit stop. (On the Land Use Diagram, this category is simply labeled “Village Residential.”) These areas are built at densities high enough to support the commercial area and transit use. Together, the *Core Commercial* and *Village Core Residential* areas make up the *Inner Village*. An average minimum gross density of 10 dwelling units per acre (du/ac) will allow a mix of small lot single-family, townhouses and apartments in Village Core Residential areas.

All Village Core Residential areas should be pedestrian in scale, ranging from slightly under to slightly over one-quarter mile in radius and should provide direct and easy access to Core Commercial areas and transit stops. Village Core Residential areas may contain a variety of housing types and ownerships, ranging from small lot single-family homes to apartment buildings, as long as the overall average gross density of the Inner Village is at least 10 du/ac. While housing diversity is desirable, this density requirement could be achieved using only a single-family product--small lots with ancillary units.

6.4.4 Outer Village Areas

Less compact areas surrounding the Inner Villages contain lower density housing, offices, schools, and open space. These areas are known as the *Outer Village*. The Outer Villages are tied to the Inner Villages by a local network of connector streets so that perimeter arterials and thoroughfares are not relied upon for local travel, thereby reducing demand on these roads and providing safe paths for pedestrians and

bicyclists. This circulation system is a key component of Village developments.

The Outer Village Area is intended to provide lower-density uses that are not appropriate in the Inner Village because they are not sufficiently compact and are more reliant on the automobile. Outer Village areas are designated for single-family and office uses (only along arterials across from Core Commercial areas) that will help support the Core Commercial businesses and transit service. “Low Density Residential,” which allows single-family residences (see Chapter 3), is the land use category that will be applied to most of the Outer Village areas.

These Outer Village areas make up the majority of the land available in the Village areas. (Of each one- square-mile Village, approximately two-thirds of that area will be the Outer Village.) These areas will be much like traditional single-family neighborhoods, except they will have more of a pedestrian- and transit-friendly atmosphere.

Public schools and parks that provide services to both the Outer Village and Inner Village should be located in the Outer Village near the boundary of the Inner Village.

6.4.5 Open Space, Parks & Plazas

The location of parks, plazas and trails should be coordinated to distribute a variety of recreation opportunities throughout the growth area. Growth areas should contain a network of open space including community parks, neighborhood parks, village parks, village greens, plazas and an interconnected ‘greenway’ trail system. (Refer to Section 7.2.2 for more details.)

6.5 URBAN DESIGN GOALS, POLICIES, AND ACTIONS

Goal Area UD-1: Urban Villages

GOALS

- **An Integrated Urban Form**
- **Transit-Oriented Community Design**
- **Pedestrian- and Bicycle-Compatible Neighborhoods**

POLICIES

UD-1.1 Apply Urban Village design principles to new development in the City's new growth areas.

UD-1.2 Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access.

UD-1.3 Promote and facilitate Core Commercial design principles in Village commercial areas.

UD-1.4 Promote and facilitate Urban Village residential area design principles.

UD-1.5 Design and develop public and quasi-public buildings and uses utilizing Urban Village principles.

Policy UD-1.1

Apply Urban Village Design Principles to New Development in the City's New Growth Areas.

The "Merced Village Concept Plan" for North Merced area was approved by the City in 1991. The fundamental building block of the Plan is the Village, a compact, mixed-use district that will accommodate projected growth, maintain Merced's present quality of life and help ensure its continued economic vitality. Villages achieve these goals by encouraging pedestrian and transit travel, and by minimizing single-use, low density developments that generate traffic congestion, air pollution, a scarcity of affordable housing, monotonous landscapes and poor utilization of environmental and land resources. The City of Merced has established the "Urban Village" model as the basic design concept governing urban form in new growth areas. Its principles should be applied as much as feasible in new growth areas throughout the Merced urban area.

Implementing Actions:

- 1.1.a** The focus of new development will be the "Urban Village," which are mixed-use, pedestrian- and transit-friendly communities within a one-square mile area.

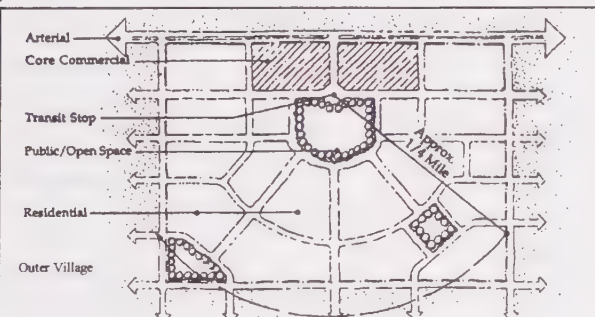
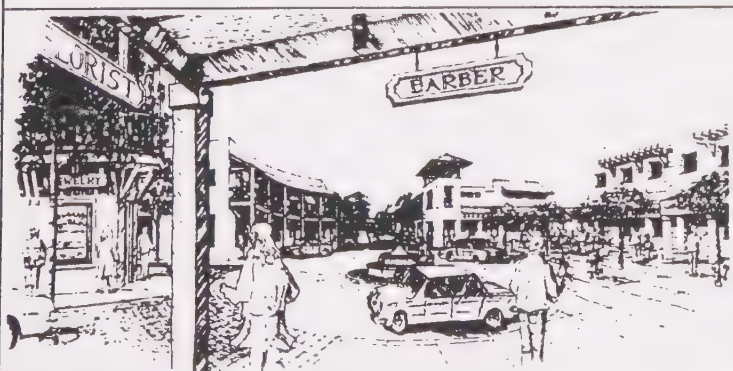


Figure 6.2
"Inner Village"

Villages should include a mixture of parks, shops, a variety of housing types, and civic uses. Villages combine these uses within a convenient distance, making it easier for residents and employees to travel by transit, bicycle or foot as well as by car. Village sites should be located on or near planned transit segments and provide a physical environment that encourages pedestrian and transit travel.

- 1.1.b** Each village shall have a mixed-use "Core Commercial" area located immediately adjacent to Village Core Residential neighborhoods.



At a minimum, plans for designated Core areas should provide convenience retail and civic sites. Larger cores may also include major supermarkets, professional offices, day care, restaurants, service commercial, entertainment uses, comparison retail and other retail stores located adjacent to the transit stop. Optional upper floor office and residential uses in the Core

Commercial area increase the mixed-use, round-the-clock nature of the Core area. A transit stop and village green should be located between commercial uses and Village Core Residential areas.

Three kinds of Core Commercial areas may occur:

- a) Convenience Centers — providing a convenience “mini-market” with some ancillary retail (typically 3-10 acres);
- b) Neighborhood Centers — providing a supermarket with an additional anchor store, major ancillary retail and professional offices (typically 10-20 acres); and
- c) Community Center — providing a supermarket and drugstore, ancillary retail, professional offices and additional anchors such as junior department stores, cinemas and health clubs (ranging from 20-60 acres).

1.1.c “Village Core Residential Areas” (part of the “Inner Villages”) shall include residences that are within a convenient walking distance from Core Commercial areas and transit stops, and are built at densities high enough to help support them.

Village designs should incorporate an average minimum gross density of 10 dwelling units per acre (du/ac) which will allow a mix of small lot single-family, townhomes and apartments in Village Core Residential areas. All Village Core Residential areas should be pedestrian in scale, ranging from slightly under to slightly over one-quarter mile in radius and should provide direct and easy access to Core Commercial areas and transit stops.

Village Core Residential areas may contain a variety of housing types and ownership’s, ranging from small lot single-family homes to apartment buildings, as long as the overall average gross density of the Village is at least 10 du/ac. (Gross densities calculations should include the area in lots as well as in streets and alleys immediately in front and behind the lots). While housing diversity is desirable, this density requirement could be achieved using only a single-family product — small lots with carriage (ancillary) units. Small village parks should be provided as an urban amenity within these denser Village Core Residential areas.

1.1.d Each Village will have an “Outer Village” adjacent to it which includes lands no further than one mile from the Core Commercial area.

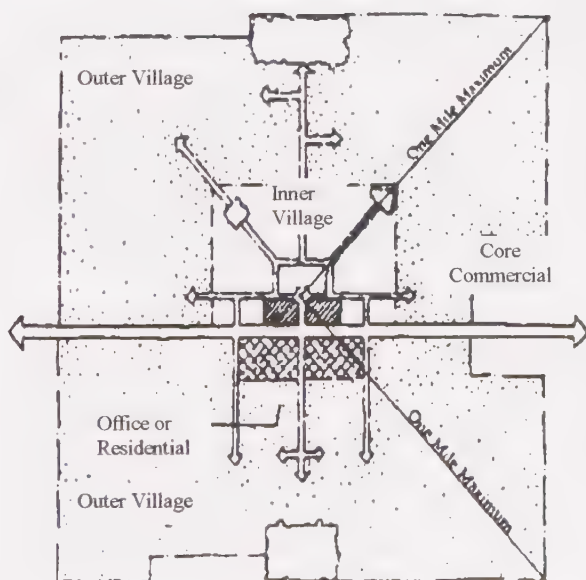


Figure 6.3
Urban Village

Site plans for the “Outer Village” street network must provide multiple direct street and bicycle connections to the center without use of an arterial street. Outer Villages may have lower density housing, public schools, community parks, limited areas of office uses, and park-and-ride lots.

The Outer Village is intended to provide uses that are not appropriate in the Inner Villages, because they are not sufficiently compact and are more reliant on the automobile. Public schools and parks that provide services to both the Inner and Outer Village should be located in Outer Villages near the boundary of the Inner Village.

Commercial uses that are very similar in nature and market appeal to those located in the Village's Core Commercial area are generally not allowed in Outer Villages because they diminish the viability of the Village's retail center.

1.1.e The location of parks, plazas, and trails should be coordinated to distribute a variety of recreation opportunities throughout the area.

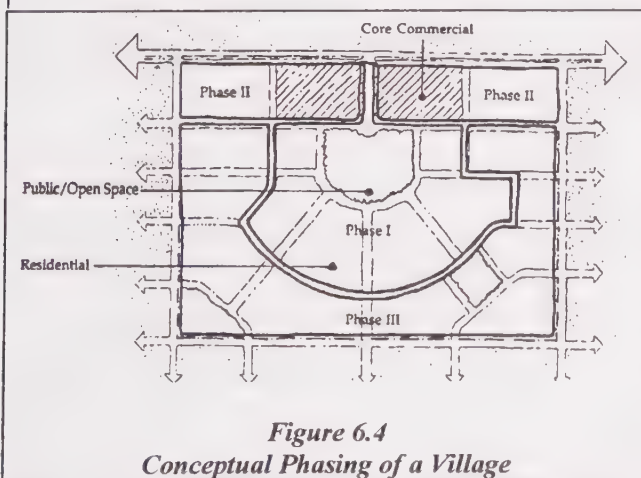
The Urban Village area should contain a network of open space including community parks, neighborhood parks, village parks, village greens, plazas and an interconnected “greenway” trail system. Bicycle and pedestrian trails should be created along major creeks, high-voltage power lines, transitways, and along the abandoned Yosemite Valley Railroad (YVRR) railroad bed in North Merced to provide easy access to parks and schools that should be located along them.

1.1.f Uses which rely extensively upon autos or trucks are encouraged to locate in Business Park or other commercial areas along major transportation corridors.

An important concept of Urban Village development is to create areas which are less dependent upon auto and truck transportation than other areas of the City. Many uses typically allowed in commercial areas rely predominantly upon auto travel to generate business patrons. These uses, such as auto dealers and repair shops, mini-storage facilities, travel commercial complexes, and motels, should not be permitted in Villages in most cases. These uses should be accommodated in nearby areas where the street and highway system can support the traffic loads that they generate. For example, such uses are appropriate in business park areas adjacent to Highway 59 in North Merced.

Similarly, light industrial uses should not generally be permitted in Villages. Industrial uses are appropriate, however, where existing industrial activities occur and along major transportation corridors.

1.1.g The City will work with individual property owners within the Village areas to assure that development occurs in a balanced manner to assure economic viability of individual projects.



The growth area must be developed in a balanced phasing pattern. Schools and parks must be dedicated concurrent with commercial and residential uses. Furthermore, areas must be set aside for land uses that will be needed in later phases, but where market demand needs to mature, such as Core Commercial and higher density housing areas. For this reason, development of Villages is seen as a cooperative effort between the City, landowners and the development community.

Villages represent relatively large projects which may be executed over several years. The phasing of the project is critical to its success, both as a financial undertaking and as a mechanism to encourage transit use. In order to encourage the public service agencies to provide public facilities in a timely manner to serve the needs of residents, developers are asked to dedicate sites designated for public uses concurrent with development of commercial and residential uses. Developers should also work with the City to ensure that the recommended mixture of land uses is achieved in a timely manner and development costs remain low.

Policy UD-1.2

Distribute and Design Urban Villages to Promote Convenient Vehicular, Pedestrian, and Transit Access.

Villages should be distributed throughout the study area in a pattern that allows the greatest number of residents access to a variety of shopping opportunities. Villages should be distributed to permit residents to walk to retail and public facilities without having to cross an arterial street. Villages should also be located to take advantage of main transit lines and existing retail market demand.

The Urban Village circulation system encourages alternative modes of travel, while providing adequate access for automobile traffic. This street pattern is achieved by providing multiple routes to destinations without relying on arterials. This pattern of multiple routes keeps traffic volumes lower on individual connector streets and allows pedestrians and bicyclists to avoid unfriendly arterials. This pattern also favors pedestrians by slowing traffic, reducing pavement and improving the sense of shelter afforded by houses and trees. Within the Urban Village development concept, local and connector streets should be designed to discourage through traffic, while still providing an interconnected and a legible circulation network.

Implementing Actions:

1.2.a Villages should be located to maximize access to their Core Commercial areas from their adjacent neighborhoods without relying on arterials.

Villages with major retail centers should be spaced at least one mile apart and should be distributed to serve various growth sub-areas. Generally, there should be one Village for each full square mile bound by arterials, except in rural residential areas.

1.2.b The boundary of each village varies with the size of the Core Commercial area and does not extend across arterials.

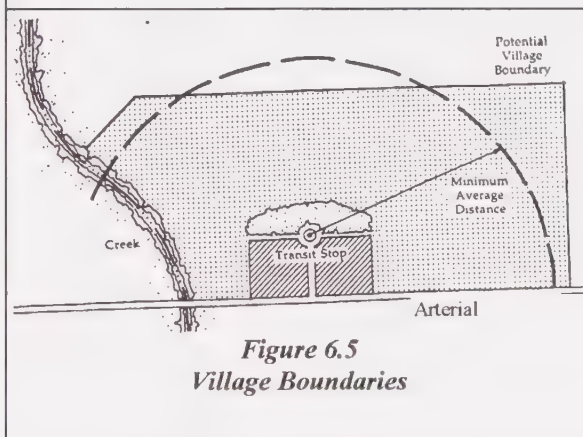


Figure 6.5
Village Boundaries

While the shape of the Village may vary, the size of the Inner Village should not be less than the area described by the quarter-mile walking distance radius (ranging from 1200 to 1600 feet) from the transit stop and core commercial area.

The minimum size of an Inner Village should vary according to the kind of Core Commercial area within the Village; larger Villages are associated with larger Core Commercial areas. The minimum distance requirement does not apply to areas with major intervening features such as major creeks and high-voltage power lines, where the boundary should follow the major feature.

Inner Villages should typically be at least 100 acres when associated with a Community Center, 70 acres when associated with a Neighborhood Center, and 50 acres when associated with a Convenience Center.

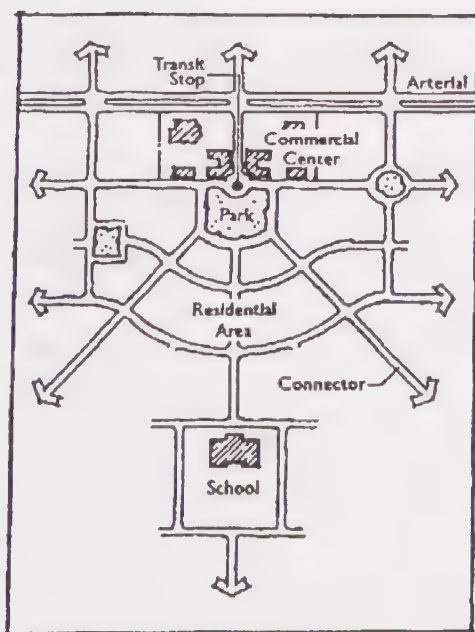
1.2.c Building intensities and densities should meet the minimum requirements set forth for a Village to promote more active centers, support transit, and encourage pedestrian-oriented development that fronts onto the street.

Compared with other Village areas, the Inner Villages should have the highest commercial intensities (the amount of building relative to the size of the site) and the highest residential densities (the number of dwelling units in a given area). Core Commercial areas should be intensive enough to provide a "main street" shopping spine. Multi-storied buildings and structured parking are strongly encouraged near transit stops to better utilize the lands adjacent to the transit line and to provide additional transit ridership. A development pattern is encouraged where densities are highest at the center of the Village and become lower as the distance from the center increases. Thus higher density housing types such as apartments and townhouses are most appropriate adjacent to the Core, with lower density single family housing placed further out.

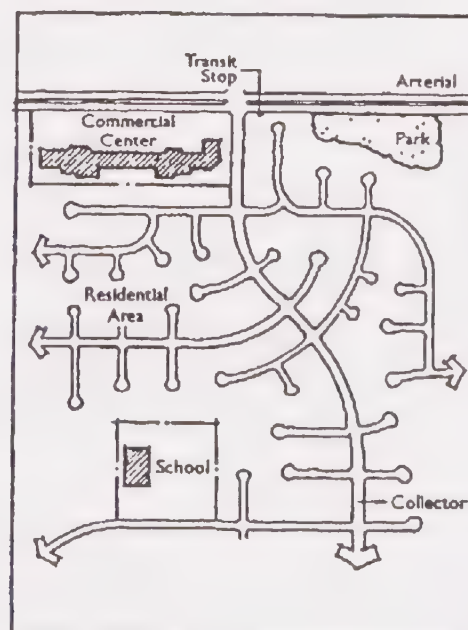
1.2.d The Village street system should provide multiple and parallel routes between the Core Commercial area and the rest of the Village. In no case shall trips which could be internal to a square mile bound by arterials be forced onto an arterial.

The collector street pattern should be simple and memorable. Winding roads, dead end streets and cul-de-sacs that cut off direct access to Village Centers should be discouraged in Village Core Residential Areas, but may be appropriate in some Outer Village areas. Streets should converge near common destinations that contribute to an area's unique identity, such as transit stops, Core Commercial areas, schools and parks

The street system should allow autos, bikes, and pedestrians to travel on small local streets to any location in the Village. At no time should an arterial street be the only preferable route to and from the Inner Village and its Outer Village.



Preferred



Discouraged

Figure 6.6
Village Street Systems

1.2.e Arterial streets should allow efficient conveyance of through traffic and must not pass through Villages.

The paved width of arterials should provide for safety, efficiency and long term needs. The regional traffic circulation system is dependent upon an efficient and smooth-flowing network of arterials. The required right-of-way for arterials varies with anticipated need. (Refer to Chapter 4, Circulation Map.)

1.2.f Collector and local streets should connect the Inner and Outer Village to Core Commercial areas, schools, and community parks without the use of arterials.

In general, Collectors should be designed to carry moderate levels of local traffic smoothly, in a way that is compatible with bicycle and foot traffic. A network of collectors should provide alternative paths to destinations within the village for neighborhood residents. The collector network should not provide a speedy through-route alternative to arterials. “T” intersections and “dog leg” alignments could be used to reduce through traffic and reduce speeds. The precise alignment of collectors will be determined as individual projects are designed.

Collectors should contain bikeways. Driveway cuts should be minimized and alley access to rear garages is encouraged to minimize potential conflicts among autos and bicyclists, and for the convenience of residents along collectors. Collectors and some local streets should be aligned along the edge of parks and open space to enhance the aesthetic character of the streets and sidewalks.

1.2.g The pedestrian and bicycle system must provide clear and direct access to the Core Commercial area and the transit stop.

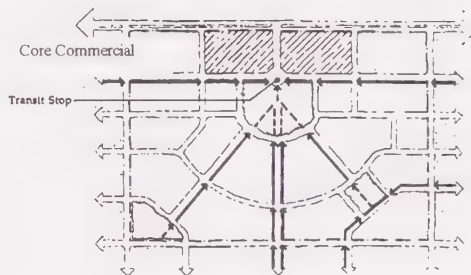


Figure 6.7
Pedestrian & Bicycle System

Although the street and sidewalk system will accommodate many destinations within Villages, the primary destination will be the commercial Core and transit stop. Direct paths to the transit stop should be lined with activities and be shaded. The configuration of parking, shopping and pedestrian routes should reinforce access to transit. A feeling of safety for pedestrians and bicyclists can be provided through the use of park strips between the curb and the sidewalk or bike path which provide separation from auto traffic.

MERCED URBAN DESIGN GUIDELINES

STREET DESIGN

Commercial Streets

Commercial streets located in Core Commercial areas should be designed to accommodate pedestrians, slow traffic, provide on-street parking and create a pleasant shopping environment.

Explanation:

Commercial streets should create an intimate shopping environment that maintains drive-by visibility to stores. Shops should front onto commercial streets with minimal setbacks. Wider sidewalks, street trees, awnings and arcades should be used to accommodate this active, pedestrian environment. Curbs and landscaping should be configured to allow street cleaning equipment.

Local Streets

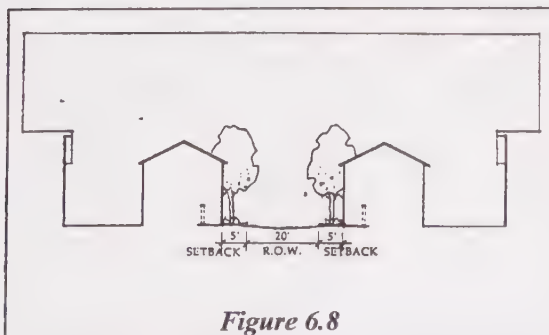
Local Streets should have travel and parking lanes sufficiently narrow to slow traffic and allow trees to form a pleasing canopy over the street, while still providing for adequate access for automobiles, and emergency and service vehicles.

Explanation:

Local streets should be designed to serve low volumes of traffic through a pedestrian-oriented environment. Street trees should be provided to enhance the quality of the neighborhood and provide relief from summer heat.

Alleys

Alleys can be used to serve residential and commercial developments within Villages, and for lots facing onto parks and collector streets.



Explanation:

Alleys provide visual relief for the streetscape and a secondary means of access to individual parcels. Alleys serving residential development should be at least 20 feet wide with a 5 foot setback to each garage. No parking would be allowed within the 20 foot right-of-way, but parking should be provided within garages or on-site parking areas. Visitor parking should occur on the street in front of units. Street trees and landscaping are encouraged within the 5' setback

where access to garages and on-site parking is not needed.

MERCED URBAN DESIGN GUIDELINES

STREET DESIGN

Street Vistas

Where possible, streets should frame vistas of the Core Commercial areas, public buildings, parks, or natural features.

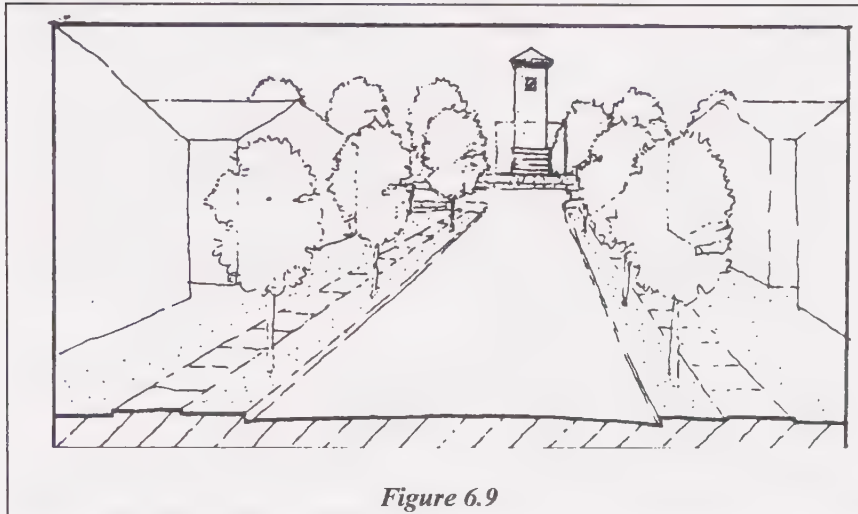


Figure 6.9

Explanation:

Streets and buildings should be designed so views down streets terminate at important buildings and places. This will establish a series of pedestrian "landmarks" and allow pedestrians to see the context of their community. Straight streets, in particular, can allow clear views to landmarks and are encouraged.

Street Trees

Shade trees are required along all streets. Street trees should be spaced a maximum of 40 feet on center and should be located in planter strips between curbs and sidewalks where appropriate. Tree species should be selected to create a unified image for the street and provide an effective canopy.

Explanation:

Many streets are identified and remembered by their street trees. Village streets should be lined with similar trees to give them a unified and distinct image. Within Villages, trees should be placed in a planter strip between the street and sidewalk. In areas that do not have planter strips, the trees should be kept close to the sidewalk to provide shade and should be aligned to visually frame the street.

Arterial Crossings

Crosswalks across arterials should be provided at all signalized intersections. Undercrossings designed for pedestrians and bicyclists should be provided at specified locations, where greenways cross arterials.

Explanation:

Crosswalks and underpasses should be provided for easy and safe pedestrian and bicycle movement across arterials. As part of the City-wide trail network, undercrossings should be provided where "greenways" and bikepaths cross arterials and in some cases, collectors. Additional crossings should be provided at Core Commercial areas and signalized intersections.

MERCED URBAN DESIGN GUIDELINES

STREET DESIGN

Pedestrian Routes

Primary pedestrian routes should be located along or visible from streets. Routes through parking lots or at the rear of residential developments should be avoided. Bordering primary pedestrian routes and bikeways with rear yards and fences should be avoided. Where primary pedestrian routes cross arterials, undercrossings or signalized intersections should be provided.

Explanation:

Too often pedestrian paths have been separated from streets, giving a confusing message to pedestrians and creating safety concerns due to reduced visibility. Where possible, the primary pedestrian path system should coincide with the street system. Diagonal short cuts through parks, plazas and greens are an exception and should be encouraged. Paths through parking lots and away from streets should be used only where large setbacks from the street are permitted. Alternate routes around parks should be provided for night use.

Safe pedestrian crossings across arterials, and in some cases collectors, should be provided where major pedestrian movement is anticipated, such as along greenways and across from Core Commercial areas. Undercrossings or signalized intersections should be provided in these locations.

Bikeways

Bike paths should also be provided along greenways, along transitways, the approximate alignment of the Yosemite Valley Railroad (YVRR), and along major creeks and powerline easements. Bicycle routes are also encouraged on small residential streets, but marked bike lanes may not be required. Connections to Merced's existing bikeway network should also be provided.

Explanation:

Selected routes to the transit stop should provide marked or separated bikeways connecting Village areas. The greenway network provides additional bicycle-oriented connections to parks and schools. On smaller residential streets within the Village, slower auto speeds will allow bikes to share the travel lanes. The YVRR bike path in North Merced need not follow the existing alignment of the railroad but should run near it and provide a direct route.

Bike Parking

Bicycle parking facilities should be provided throughout Core Commercial areas, in office developments, and at transit stops, schools, parks, and other special destinations.

Explanation:

Bike racks or other bike storage facilities should be provided at various shopping, employment, transit and recreational destinations in Villages. Bike parking may be shared between uses, but should be centrally located, easily accessible to building entries, protected from weather extremes, and visible from streets or parking lots.

Policy UD-1.3

Promote and Facilitate Core Commercial Design Principles in Village Commercial Areas.

The commercial core of the Village plan provides the focus for service, employment, recreation and entertainment within each Village area. It is vital that these core areas contain ample space to accommodate all necessary uses and activities and at the same time be highly accessible to surrounding residential areas by non-vehicular means. Core Commercial areas must be adjacent to a future transit stop. Street-level retail space should form a pedestrian-oriented “main street” that is accessible from the surrounding Village without using an arterial road. Shopping malls and centers should face shops onto streets that connect to the surrounding neighborhood without large intervening parking lots. The design of Core Commercial areas should encourage shopping enroute to the transit stop or by office workers during the day.

Implementing Actions:

- 1.3.a** Each Village must have a mixed-use Core Commercial area containing ground floor retail and commercial space, including: Convenience Centers, Neighborhood Centers, and Community Centers.

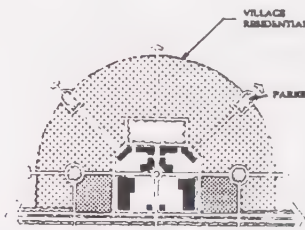
The size and uses in each Core area can vary, depending on the size, location, and village's function in the region. At a minimum, it should serve as a transit destination and convenience shopping area for Village residents, and can contain professional offices as well as retail uses.

Community Retail Centers should concentrate a diverse set of major commercial and civic uses such as junior department stores, discount stores, cinemas, restaurants, health clubs, grocery stores, drug stores, hardware stores, public offices, and day care. Large-scale office areas should be located across an arterial road from Community Retail Centers.

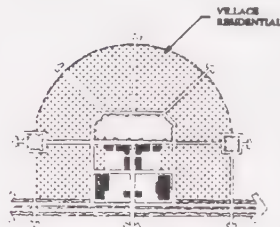
Neighborhood Retail Centers should serve the growth area with major grocery stores, drug stores, ancillary shops, and offices. Professional office uses may also be located across arterial roads from Neighborhood Retail Centers.

Convenience Retail Centers should provide convenience “mini-markets” and some ancillary commercial uses. Convenience Retail Centers must not contain major anchor stores.

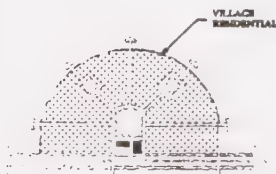
**CORE
COMMERCIAL
AREAS**



Community Center



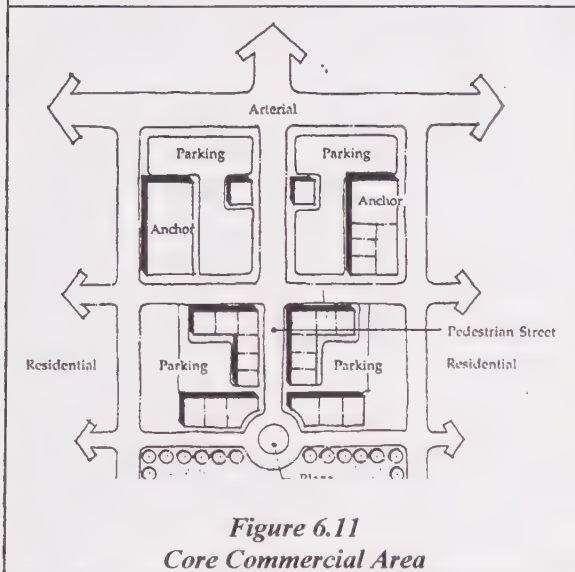
Neighborhood Center



Convenience Center

Figure 6.10

1.3.b Core Commercial areas must be developed at sufficient intensity (typically a F.A.R. of at least 0.25) to create a focus of activity at the center of Villages.



The F.A.R. can be achieved with a mix of traditional retail, offices, and entertainment uses. F.A.R.'s (Floor Area Ratios) are the ratio of the total floor area to the lot area, excluding public streets. Office and residential uses over ground floor retail are encouraged. Joint use parking should be provided wherever possible, making higher intensities feasible. Structured parking is also encouraged and should be considered in the design of Core Commercial areas, even if implemented in later phases.

1.3.c Office areas should be built at an intensity that concentrates activity near transit stops and Core Commercial areas.

A F.A.R. of 0.35 to 0.60 is encouraged without structured parking and may be as high as 1.00 F.A.R. with structured parking. Larger office areas should be located across from the Community Retail Centers. Smaller office areas should be located across from Neighborhood Retail Centers. Professional and commercial office uses are also permitted in Core Commercial areas. In most cases offices will be developed with surface parking. As land values rise in Merced, structured parking will become more economically feasible. This guideline encourages development of multi-story buildings with structured parking, thereby allowing more efficient use of land near transit stops.

MERCED URBAN DESIGN GUIDELINES

COMMERCIAL AREA APPEARANCE

Building design principles, while not critical to the function of Village development, contribute to the overall attractiveness of a Village and its marketability. It is the City's desire to promote Village development which accomplishes the basic goals of reducing traffic congestion and urban pollution; at the same time, the Village development concept must achieve market acceptance for its potential residents. Therefore, Village building design principles are provided in this section to promote building designs which will enhance the market image of Village areas.

Parking Lots

Parking lots should not dominate the frontage of pedestrian-oriented streets or street segments, or interrupt major pedestrian routes.

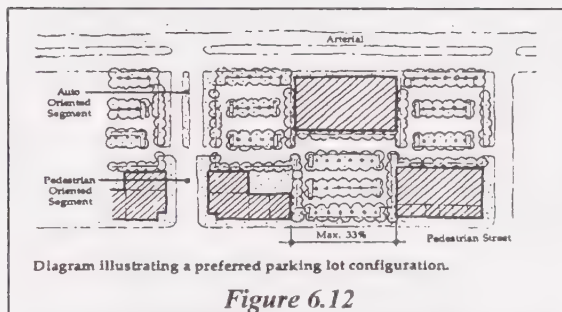


Figure 6.12

Explanation:

Parking lots should be located behind buildings or in the interior of a block whenever possible. Parking lots that serve buildings facing pedestrian-oriented streets or street segments should be located to the rear of the building. Major anchor retail stores may have deeper parking lots.

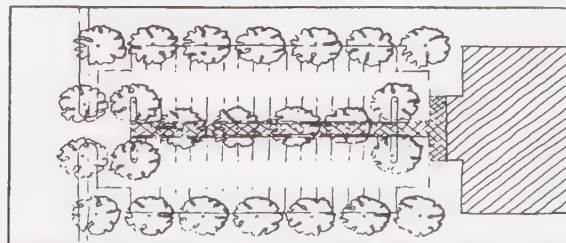
Parking Lot Landscaping

All parking lots must have at least one tree per 6 parking spaces so that within ten years approximately 50 percent of the surface area of the lot is shaded. Additionally, parking lots should be screened from streets by landscape treatments. Views of retail facades should not be blocked by tree canopies.

Explanation:

This parking lot landscaping standard is intended to achieve a quality of environment that is comfortable to pedestrians, rather than planting a specified number of trees that may or may not achieve the desired results. Additional trees should be located along walkways; perimeter landscaping should screen views of cars, but not block views of retail facades. Tree canopies should be trimmed to retain shade, while allowing building visibility.

Figure 6.13



MERCED URBAN DESIGN GUIDELINES

Architectural Character

Buildings should create visually pleasing human-scaled environments that reinforce the identity of the various uses and express the importance of the Village centers and civic buildings

Explanation:

No project should appear to dominate an entire street or block. Variety in floor level, facades, roof forms and architectural details that create the appearance of several smaller projects are strongly encouraged, but should not detract from an overall sense of continuity created through massing roof types and materials.

Building materials should convey durability and permanence, and should be suited to Merced's climate. Building materials such as concrete, stucco, masonry, tile, stone and wood should be used to the greatest extent possible. Glass curtain walls and all reflective glass should not be used. Shading devices and techniques should be used to reduce interior glare, conserve energy and contribute to visual interest.

Building heights that transition gradually from perimeter areas to the Core Commercial and Office areas are encouraged. Special buildings, such as community centers, schools and theaters, should have ornamental and vertical elements to communicate their civic importance.

Landscaping

Landscape elements such as trees, trellises, arbors, water features, amphitheaters, plazas, and courtyards should be used to enhance public spaces, pedestrian paths and building entrances. Drought tolerant plants are encouraged for landscaped areas. Areas that require irrigation should use water conserving features and systems, when practical.

Explanation:

Landscape elements should be used to provide relief from summer heat, create a visual interest and to reinforce patterns of use. Trees, trellises, and arbors should be used along sidewalks and across parking lots to provide protection from the sun and create a pleasant canopy. Plazas and courtyards should be located near office entrances and within Core areas. Water features (with recirculated water) and amphitheaters may be used to mark places of civic importance. Street trees should be planted along streets.



MERCED URBAN DESIGN GUIDELINES

COMMERCIAL AREA APPEARANCE

Core Commercial Configuration

The configuration of shops in the Core area should seek a balance between pedestrian and auto comfort, visibility, and accessibility.

Explanation:

While anchor stores may orient to arterial streets and parking lots, smaller shops must orient to pedestrian "main streets" and plazas. Core Commercial areas should be configured to allow standard parking quantities, access and visibility for the car, as well as providing convenient paths for local pedestrians. The Core Commercial area's configurations should allow local residents to walk and drive to shopping and transit stops without using arterials. Often, the smaller shops can turn to form a "main street" with street-side parking and parking lots behind the shops to form a pleasant place to walk. Simultaneously, the edge of the Core fronting the arterial may house larger parking areas and anchor stores in a location visible from arterials. Anchor stores are encouraged to provide entries to their parking lot and to the pedestrian-oriented shopping street. (See *Figure 6.14* below.)

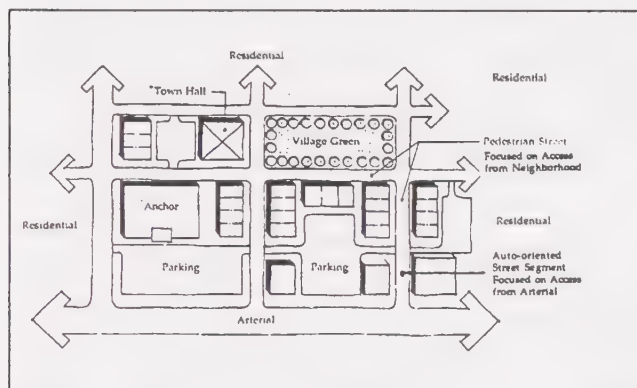
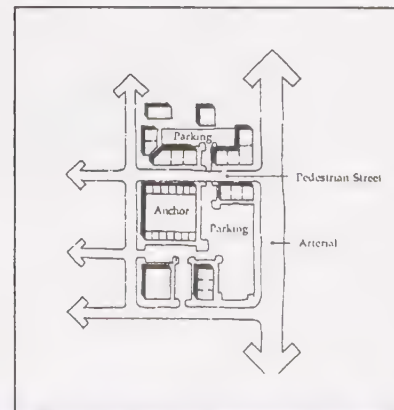
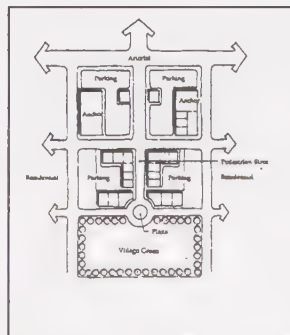
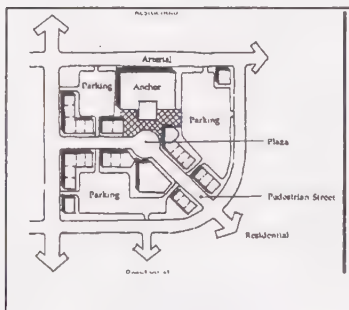
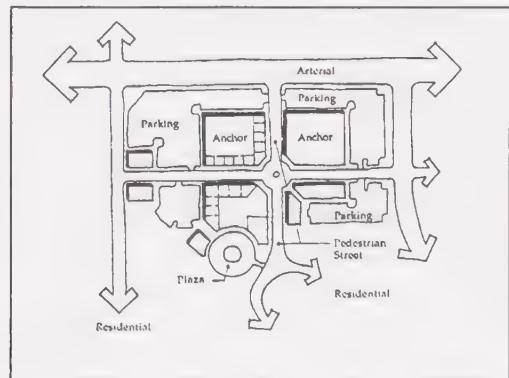


Figure 6.14
Core Commercial Configurations



MERCED URBAN DESIGN GUIDELINES

COMMERCIAL AREA APPEARANCE

Commercial Building Setbacks

Building setbacks from non-arterial streets should be minimized. Setbacks should reflect the desired character of the area and bring buildings close to the sidewalk.

Explanation:

Buildings in Core Commercial areas should build to non-arterial streets and the sidewalk edge whenever possible, except for anchor tenants that may require larger setbacks. Parking areas or garages should be recessed or placed to the rear of buildings, in clustered parking areas and along alleys. Larger setbacks should be permitted in appropriate areas.

Commercial Building Facades

Commercial building facades should be visually accentuated with various architectural elements such as arcades, porches, bays, and balconies to enhance the pedestrians' environment. Street level windows and numerous building entries are encouraged in the Core Commercial area. In almost no case should the facade of a building consist of an unarticulated blank wall.

Explanation:

Buildings should incorporate design elements that draw in pedestrians and reinforce street activity, especially along main streets. Anchor retail tenants should be encouraged to add small-scale retail uses on building frontages. Commercial facades should vary from one building to the next, rather than create an overly unified frontage. Monotonous and undifferentiated commercial facades should be avoided; variations in floor level, facades, roof forms and architectural details that create the appearance of several smaller projects are strongly encouraged.



MERCED URBAN DESIGN GUIDELINES

COMMERCIAL AREA APPEARANCE

Commercial Building Entries

Primary ground floor commercial building entrances should orient to plazas, parks, or pedestrian-oriented streets, not to interior blocks or parking lots, except for anchor retail buildings, which may have their entries from off-street parking lots. On-street anchor street entries are strongly encouraged, however.

Explanation:

Entries into small shops and offices should orient directly onto a pedestrian-oriented street. Buildings with multiple retail tenants should have numerous entries to the street. Off-street parking should also be located at the rear of buildings with short, pleasant passageways leading to the pedestrian-oriented street and primary entrances.

Some retail anchor stores, such as neighborhood grocery stores, need parking lot access to the primary entry. This is acceptable if pedestrian access to the entry is provided from the street, and pedestrians are not required to walk from street sidewalks through the parking lot to enter the store. Along walls without entries, building elevations should include windows, display areas, and/or be lined with small retail shops.

Upper Story Uses in Core Commercial Areas

Two- and three-story buildings are encouraged in the Core Commercial areas. Upper floors may contain residential or office uses.

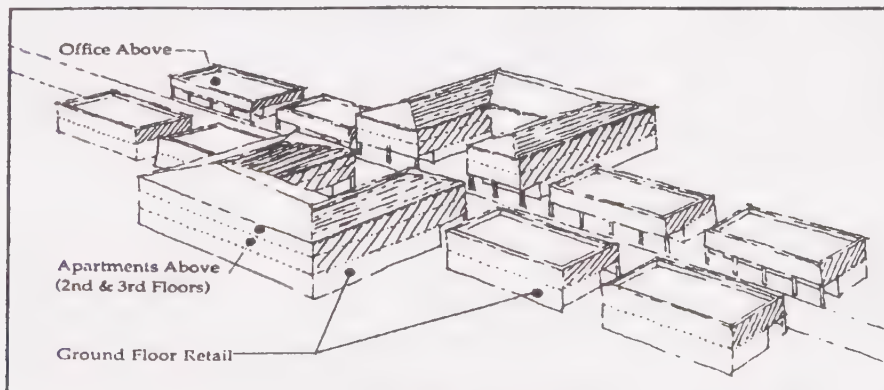


Figure 6.15

Explanation:

Retail developments in the Core Commercial area may add up to two additional floors of residential and/or office uses. Additional office and residential uses in the Core Commercial areas are encouraged as long as retail uses and activities are maintained. Special care must be given to the design of residential units to ensure privacy and security.

Policy UD-1.4

Promote and Facilitate Urban Village Residential Area Design Principles.

Within a Village development, a wide range of housing types and sufficient density needs to be developed to meet the varied housing needs of residents and to promote the economic stability necessary to support a healthy commercial core area.

Implementing Actions:

1.4.a A mix of residential densities, ownership patterns, cost, and building types is desirable in Villages.

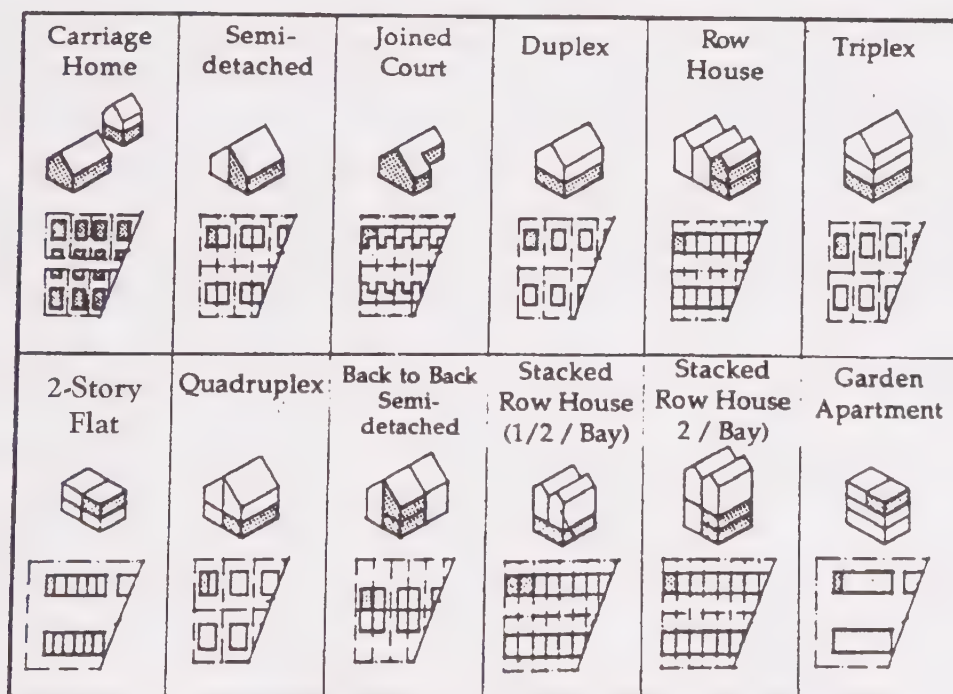
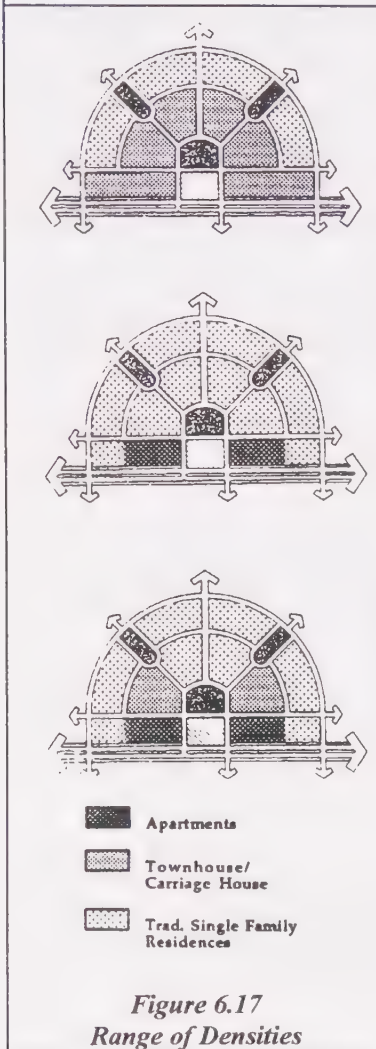


Figure 6.16
Housing Types

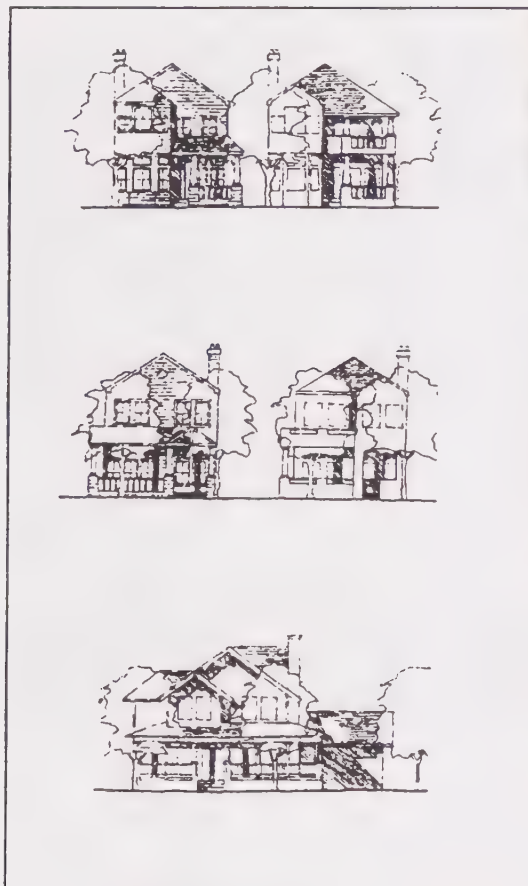
While each Village will take on a different character and will have a different proportion of single-family and multi-family densities, care should be taken to provide a variety of housing types, costs, and ownership opportunities within each Village. The Village Core Residential portion of the Village can be a combination of small-lot single-family units, duplexes, townhouses, and up to three-story apartment buildings. Outer Village areas provide opportunities to develop other lower density housing types.

1.4.b A range of densities and dwelling types are permitted in Villages.



Gross residential densities within Village Core Residential areas should be a minimum of 7 units per acre, an average of at least 10 units per acre, and a maximum of 30 units per acre. Gross residential densities within Outer Village areas should have a minimum average density of 4.5 units per acre with a minimum of 2 units per acre. These gross density requirements must be met to ensure the viability of transit and retail centers, as well as providing housing opportunities for a range of households. (Gross density calculations should include the area in lots as well as in streets and alleys immediately in front and behind the lots, except where existing property configurations and site constraints reduce effective densities.)

Many single-family residential types will meet these requirements, especially if ancillary units are used. Many multi-family housing types are permitted in Inner Villages; duplex and triplex units are also permitted in Outer Village Areas. The range of permissible housing types are illustrated in the following guidelines.



MERCED URBAN DESIGN GUIDELINES

RESIDENTIAL AREA APPEARANCE

Single-Family Housing Types

Single-family residential types cover a wide range of densities. They should enhance the pedestrian-oriented character of Villages. Single-family types illustrated here include: zero-lot line homes, small-lot single family, standard-lot single family and estate residences. Ancillary units may be used in single-family areas.

Explanation:

Single-family housing types should create a high-quality, pedestrian-oriented environment, as illustrated by the following housing types.

Zero-Lot Line Homes

Zero-lot line homes are detached single-family dwellings with only one private side yard. Zero-lot line homes have three sides with windows and one blank wall set to a side property line. (The blank wall provides privacy for the neighbor's side yard.) Zero-lot line homes may be built at gross densities ranging from about 7 to 10 dwelling units per acre (du/ac). Ancillary units can increase this density by 75% to a maximum of 17.5 du/ac.

Small-Lot Single-Family Homes

Small-Lot single-family homes have side setbacks on both sides, thereby allowing windows to occur on all sides. Efficient lotting of small-lot single-family homes can result in gross densities of about 6 to 8 du/ac. Ancillary units can increase this density by 75% to a maximum of 14 du/ac.

Standard Lot Single-Family Homes

Standard lot single-family homes are similar to small-lot single-family homes except for larger lot sizes. Standard lot single-family homes may be built at gross densities of between 2 to 6 du/ac. Ancillary units in the rear can increase this density by 75% to a maximum of 10.5 du/ac.

Estate Residences

Estate residences have very large lot sizes and may be built at gross densities of up to 2 du/ac. Ancillary units can increase this density by 75% to a maximum of 3.5 du/ac.

MERCED URBAN DESIGN GUIDELINES

Multi-Family Housing Types

Multi-family housing types should be varied in character and enhance the pedestrian-oriented character of Villages. Multi-family housing types cover a range of densities and include: podium apartments, garden apartments, small multiplexes and townhouses. Duplexes and triplexes (two and three unit multiplexes) are the only multi-family housing types permitted in Outer Village areas.

Explanation:

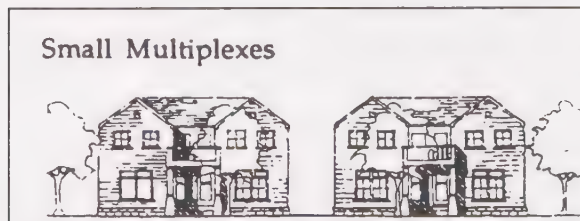
Multi-family types include housing with stacked and/or attached units, as illustrated by the following housing types. Several multi-family types can be consistent with the preceding guidelines and used to create a high-quality, pedestrian-oriented environment. These types may be rented or owned.



lead to units and shared stairs to upper units. Podiums should be not more than 5 feet above finished grade to allow direct access to first floor units and to permit visual access to the street, unless flooding conditions preclude this arrangement. Because of their compact arrangement, podium apartments can generally be built at densities ranging from 20 to 30 units per acre.



often have entrances directly off of public streets. Garden apartments may be built at gross densities ranging from 16 to 22 du/ac.



traditional homes. Small multiplexes may have mirror-image plans or asymmetrical arrangements, where some entries face a sideyard. Every dwelling unit should have access to the street and private open space. A main entrance should always face and be visible from a public street and be articulated with a porch. Upper floor units should have entry stairs extending to grade. Side entrances should be visible from the street. Multiplexes may be built at gross densities ranging from 10 to 18 du/ac.

Podium Apartments:

Podium apartments contain attached and stacked units above a structural platform or podium with a parking garage provided below. Shared stairs lead from the garage to the street or to the podium, where paths

Garden Apartments:

Garden apartments contain attached and stacked units with surface parking lots. Shared stairs, accessible from public streets, provide access to the upper-floor units of Garden apartments, while ground-level units

Small Multiplexes

Small multiplexes have 2-6 units contained in a building that has many of the aesthetic and functional qualities of single-family houses. Units may be rented or owned. While units are attached and may be stacked, the overall form of the building can bear a strong resemblance to large

MERCED URBAN DESIGN GUIDELINES

Townhomes



Townhouses

Townhouses are a traditional housing type found in many older towns and villages. Townhouses are attached at their sides in groups of three or more. Each unit has its own front yard and entrance, as well as a private back yard. Because there is only one unit per lot, townhouse

tend to be owner-occupied. Townhouses may be built at gross densities ranging from 10 to 20 du/ac.

Residential Building Entries

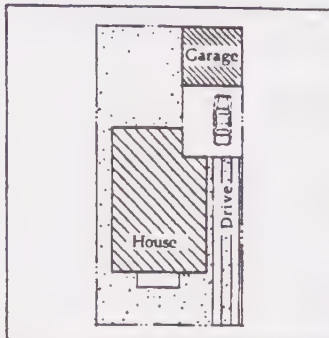
In most cases, primary ground floor residential building entrances should face and be visible from the street, instead of parking lots and driveways in the interior of blocks.

Explanation:

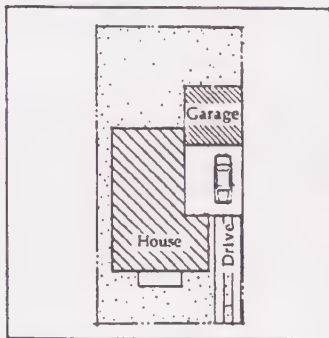
In residential areas, the front door and guest entry should orient to the street. Private back door entries can provide access from alleys, garages, and parking lots. Ancillary units and upper floor units in multi-family or apartment complexes may be accessed by rear or side entries.



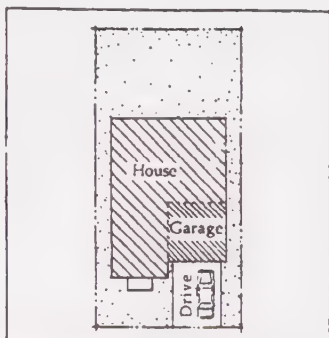
Figure 6.18



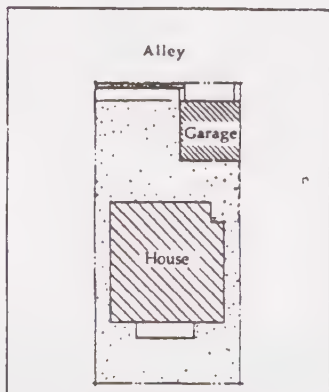
Side Drive (Detached)



Side Drive (Attached)



Modified Front Garage



Alley (Attached or Detached)

MERCED URBAN DESIGN GUIDELINES

RESIDENTIAL AREA APPEARANCE

Residential Garages

Residential garages should be designed to reduce the visual impact of the auto and to line the street with active, visually interesting features.

Explanation:

The garage should be set back behind the front facade of the residential building if possible. Garages may be sited in several acceptable ways: in the rear and accessed from an alley, or in the rear and accessed from a side drive. Garages may be sited to the side, but should be recessed behind architectural features and the front facade. Garages for most housing types should be sited away from the street behind or below residential buildings. Garages may be located in front of the house if a carriage house is provided above and/or if garage doors do not face the street. Where flooding is not an overriding concern and garages can be located below residences, they should be depressed so that the first floor of residences is not more than 5 feet above finish grade.



MERCED URBAN DESIGN GUIDELINES

RESIDENTIAL AREA APPEARANCE

Ancillary Units

Ancillary units or 'granny flats' are encouraged in association with single-family residences. They may be counted as 3/4 of a unit to meet density requirements. Carriage houses, ancillary units situated above garages, are encouraged.

Explanation:

Ancillary or second units create affordable rental units without changing the quality of single-family areas. They can also serve to offset housing costs for the primary unit, or provide needed space for a teenager or elderly family member. Ancillary units can be provided in Village Core Residential areas, either as part of the primary home or above a garage.

Carriage Houses are ancillary units built over detached garages at the rear lots and accessed by alleys or side drives. Carriage Houses may occur in combination with any of the following housing types: Zero-Lot Line, Small-Lot Single-Family, Standard Lot Single-Family and Estate Residential.

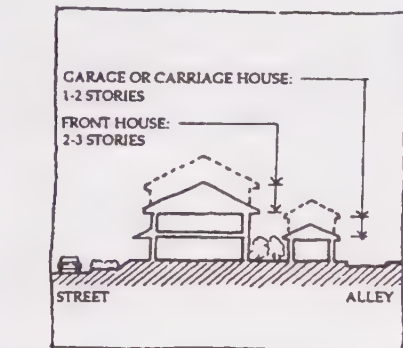


Figure 6.19

Residential Building Facades

The exterior of residential buildings or facades should be varied and articulated to provide visual interest to the streetscape.

Explanation:

Building entries and windows should face the street. Front porches, bays, and balconies are encouraged. In no case shall a facade of a building consist of an unarticulated blank wall or an unbroken series of garage doors. Varied and human-scaled building facades are key to making a place "pedestrian-oriented." Building designs should provide a high level of visual interest, without creating a chaotic image. Residences should include design elements that enhance the streetscape and address or front the street. Facades should vary from one building to the next to avoid a monotonous streetscape. Trellises and overhangs are encouraged as ways of combating Merced's summer heat.

MERCED URBAN DESIGN GUIDELINES

RESIDENTIAL AREA APPEARANCE

Residential Building Setbacks

Residential building setbacks from public streets should be minimized, while maintaining privacy. Minimum and maximum front setbacks should be established that reflect the desired character of an area and ensure that residences face streets and sidewalks.

Explanation:

In most residential areas, building setbacks should be between 10 and 20 feet to the back of sidewalk. If apartments occur over first floor commercial space, no setback is required. Estate Residences (less than 2 du/ac) may be set back as much as 30 feet.

Porches, bays and balconies should be allowed to project into these setbacks to contribute to a street's human scale and activity.

Residential Building Heights

Multi-family residential types should not exceed 3 1/2 stories. Single-family residences should not exceed 2 1/2 stories.

Explanation:

Building heights should gradually transition from perimeter areas to the Core area, with the Core area serving as the visual focal point of the Village. Heights should be greatest adjacent to Core Commercial areas and across from parks. Construction of residential buildings over underground or partially underground parking structures is encouraged. Vertical projections above the main building volume such as chimneys, roof peaks and cupolas are also encouraged.



Policy UD-1.5

Design and Develop Public and Quasi-Public Buildings and Uses Utilizing Urban Village Principles.

Public facilities and services are a central part of the design and development of a successful Village. The application of public facilities planning principles in designating space for public and quasi-public services at the neighborhood or “Village” level will help assure that future community service needs can be met in a cost effective manner.

Implementing Actions:

1.5.a Civic services should be placed in central locations in Villages.

Public buildings should be placed in central locations, in highly visible focal points, or adjacent to public parks and plazas. Civic uses such as an urban plaza, community center, post office, and library, are best located in the Core area in conjunction with retail businesses and offices and adjacent to village greens. Recreation-oriented uses, such as parks, recreation facilities, and community buildings, should be centrally located with easy access from both residential and Village Core areas. In most cases, parks and plazas should also be provided.

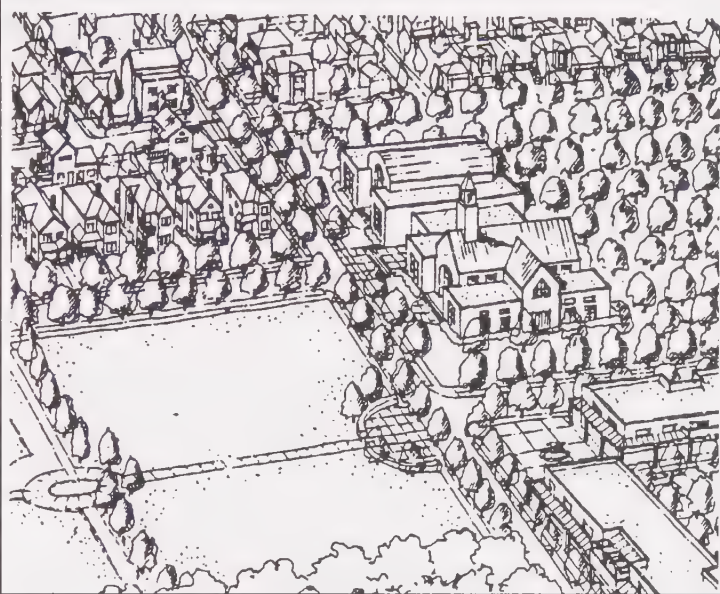
Developers should work with City agencies to determine needed locations for future public parks, plazas and buildings, and conditions for their provision. Public service providers are encouraged to make every effort to place new facilities in Villages to provide a transit travel option for patrons.

Major entries should face public streets and be articulated architecturally. The building and architectural features should be sited to take advantage of vistas along streets, to visually connect these civic buildings with their surrounding neighborhood. Major public buildings should have a civic presence enhanced by their height, mass and materials. Construction and materials should convey a sense of permanence and importance.

1.5.b Schools should be sited in a way that provides opportunities to use pedestrian trails and bicycle routes to and from school and minimizes the need for students to cross arterial streets.

Schools should also be designed to communicate their civic importance and located on or near a “greenway” bicycle and pedestrian trail to provide safe and convenient access to school. Elementary schools should be distributed so few students have to cross arterials. Junior high school and senior high schools should be distributed to minimize the need for busing. High school sites should be served by transit.

- 1.5.c Quasi-Public buildings such as religious buildings, fraternal halls, daycare facilities and private schools are encouraged to be situated and designed to face neighborhood parks or village greens.**



*Figure 6.20
Village Green*

Religious buildings, fraternal halls and other quasi-public buildings are encouraged to be sited adjacent to neighborhood parks, with entrances in front and parking to the rear or side, or below the building. The civic importance of these buildings should be enhanced through their height, mass and architectural features and materials.

- 1.5.d Utility facilities such as wells, pump stations, and electrical substations should be located in sites poorly suited for other forms of development, such as small sites bounded by high voltage power lines and arterials.**

Utility facilities should be screened by dense vegetation or architectural features. Areas that are poorly suited to residential and other uses could be used efficiently as locations for utility facilities. Locations adjacent to arterials may be desirable but should be accessible by local streets if possible and should be designed to accommodate needed equipment.

- 1.5.e Public parks and plazas should be designed for both active and passive uses. They should reflect and reinforce the character of the surrounding area.**

Various types of parks and plazas can be designed for Villages to establish an identity or character for each neighborhood. For example, plazas in commercial Core areas may be most appropriately designed with finished pavement materials such as stone or brick, and include fountains and seating areas; parks in residential areas could be developed with grassy fields, play equipment, and sports facilities. Parks should be located and designed to take advantage of view corridors along streets to create a legible and memorable street pattern.

Goal Area UD-2: Overall Community Appearance

GOALS

- A Unique Community Image
- Attractive Neighborhoods and Districts
- Attractive and Memorable Public Streets

POLICIES

UD-2.1 Utilize Urban Village design concepts in neighborhood revitalization programs.

UD-2.2 Maintain and enhance the unique community appearance of Merced.

Policy UD-2.1

Utilize Urban Village Design Concepts in Neighborhood Revitalization Programs.

Urban Village development policies and principles can result in improved neighborhood environments, reduced traffic congestion, and better and more cost effective service delivery systems. Although some existing neighborhoods throughout Merced contain certain elements of the Urban Village, some service and infrastructure improvements could enhance these "Villages." Through the use of the Specific Plan and Redevelopment Plan process, existing neighborhoods could be revitalized utilizing modified Urban Village policies, programs and standards.

Implementing Actions:

2.1.a Identify existing or potential neighborhood core areas that could serve as a Core Commercial area.

Specific planning areas have been identified in South and Southeast Merced where Village design principles may be applied. City staff should inventory the existing commercial service centers in these designated planning areas and evaluate their potential for application of Core Commercial planning principles.

2.1.b Evaluate public transit alternatives and service levels within existing neighborhoods.

Based on existing population and service centers, locate optimum public transportation service routes, park and ride facilities, transit stops, etc. Through the Specific Plan or other appropriate planning technique, prepare a program for developing necessary public transit support facilities within existing neighborhoods throughout Merced.

2.1.c Identify needed neighborhood level public and quasi-public service facilities within existing neighborhoods.

Prepare a plan and program for the development of public and quasi-public facilities which should be located in the vicinity of existing or planned Core Commercial service centers.

Policy UD-2.2

Maintain and Enhance the Unique Community Appearance of Merced.

Over the years, the City of Merced has developed a unique physical character and civic flavor. The City's compact form, tree shaded streets, well kept neighborhoods and extensive open space areas have contributed to its charm and attractiveness. The Courthouse Square and re-energized downtown commercial center have maintained their human scale which enhances the small town flavor of Merced even though the city has grown significantly in recent years. To preserve and enhance this positive community appearance, the City has traditionally committed to a policy of civic improvement and beautification.

Implementing Actions:

2.2.a Encourage joint City and County cooperation in establishing land use and development standards along all major gateways to the City.

Highways 99, 59 and 140 are important entry points into the Merced urban area. Scattered and unsightly development along these entry points detracts from the overall positive appearance of the city. To a large extent, these entry corridors are subject to development rules and regulations administered by Merced County. Working in cooperation with the County, the City shall propose development standards for these city entrances and outline a strategy for implementation.

2.2.b Encourage the design of buildings that are in scale with adjacent development and harmonize with the character of the area or neighborhood.

Through the site plan and design review process, encourage the preparation of architectural renderings of new buildings in scale and context with existing improvements in the area to permit a broader range of review options.

2.2.c Discourage the visual monotony along major streets created by designs which use uninterrupted walls or fences with little or no landscaping.

Where it is necessary to develop fences or walls as visual screens or sound barriers, encourage the use of earth berms and other landscape techniques to minimize visual monotony. Fences and walls shall have landscaped areas with varied setbacks where they are visible from public streets. Adequate measures, such as the establishment of maintenance districts, shall be imposed on development permits to assure that long-term maintenance of these areas can be assured. Openings for pedestrian access in such walls will also be encouraged at intervals along arterial streets. Modified open-end cul-de-sacs will be encouraged in place of continuous walls along collector and lower-order streets.

2.2.d Encourage the development of methods to require acceptable levels of landscaping for new development and for effective maintenance in highly visible areas of the community.

Landscape designs should incorporate water conservation and low maintenance features.

2.2.e Expand the City's programs for undergrounding utility lines.

Working closely with PG&E and other utility companies, the City shall continue its efforts to place existing overhead electrical and communication lines underground. All new utility lines should be placed underground.

2.2.f Expand the City's policies which require architecturally suitable means of screening utility equipment and garbage containers.

Site plan review procedures shall consider screening of utility equipment, garbage collection/recycling stations and other necessary appurtenant features of urban development.

2.2.g Require, where possible, the landscaping of railroad corridors through the City with low maintenance yet highly effective plant materials as commonly used in the community by various Caltrans facilities.

Through the development review process, developments proposed along a railroad corridor may be required to contribute to a landscape improvement fund or establish a landscape improvement and maintenance district along a rail corridor adjacent to the development site. The City may investigate other programs and actions which would assist in the financing of landscape efforts along these railroad corridors.

2.2.h Support merchant groups that initiate improvement programs that make commercial centers more attractive and more efficient.

The City shall work closely with various merchants and merchant groups to facilitate improvements to existing commercial centers. Particular attention should be given to improving pedestrian and transit support facilities to assure that these older centers are competitive with newer more transit/pedestrian oriented centers.

2.2.i Continue to support the long-term beautification and preservation of downtown commercial areas.

The City's Redevelopment program efforts shall be maintained in this area.



Chapter 7

Open Space, Conservation, and Recreation

7.1 INTRODUCTION AND AUTHORITY

As set forth in state law, the Open Space, Conservation, and Recreation Chapter of the *Merced Vision 2015 General Plan* establishes goals, policies and actions that relate to the preservation of open space and the conservation of resources. There is also a close relationship between the legal requirements for the Open Space/Conservation Chapter and the City's *Parks and Open Space Master Plan* adopted by the City Council in 1984. For this reason, this Open Space, Conservation, and Recreation Chapter integrates these two documents into one all-encompassing element.

The broad nature of topics required to be addressed in an open space/conservation element results in overlap with other chapters of the general plan. The *Merced Vision 2015 General Plan* has been organized in such a fashion so as to integrate open space and conservation policies into related chapters, such as Safety, Transportation and Circulation, Public Services and Facilities, Urban Expansion, Sustainable Development, and Land Use. Policies and standards contained in these and other chapters of

the General Plan provide additional direction and policy for open space and conservation.

In an effort to minimize documentation, such as inventory data, setting descriptions, etc., the data contained in the Program Environmental Impact Report for the *Merced Vision 2015 General Plan* is to be considered as a supplement to this chapter.

Government Code Section 65302(d) requires that the general plan include a "...Conservation Element for the conservation, development and utilization of natural resources including water and its hydraulic force, forests, soil, rivers and other waters, harbors, fisheries, wildlife, mineral and other natural resources."

The legislative intent of the law, as set forth in Section 65562 of the Government Code, is to assure that cities and counties recognize that open space land is a valuable limited resource which must be conserved whenever possible. Additionally, the open space element must accomplish the objectives of a comprehensive open space program along with state and regional open space plans.

Open space is to be preserved for the purpose of conserving natural resources, for managing the production of resources, providing outdoor recreation, and promoting public health and safety. The open space element is required to contain an “action program” which the City intends to pursue in implementing its Open Space Plan.

There is no requirement in state law for a local jurisdiction to prepare and adopt a park and recreation element. The open space/conservation element is required to address the provision of open space for outdoor recreation. This requirement, coupled with the obvious need to use open space in a manner that enhances the urban environment of the City of Merced, results in the need for developing a park and recreation master plan for the City.

Additionally, state law requires that a *Park and Recreation Master Plan* be used as the basis for establishing standards of park land dedication and imposition of park and recreation fees under the Quimby Act. This Chapter has been developed to meet the requirements of the Quimby Act and serve as a policy basis for updating the City’s existing Parks and Recreation Master Plan.

7.2 SETTING

The City of Merced was originally established along the banks of Bear Creek on rich alluvial soils. The community’s agricultural setting has a pronounced influence on its economy and the lifestyle of its residents. Surrounding farm lands are intensely managed for agriculture and planted with

various crops and orchards. However, as the City has grown, the natural drainage courses have been preserved and protected to create large tracts of open space which meander through the built-up community.

The surface water resources of the region have been the primary factor defining the City’s open space. Many of the City’s parks are oriented around the regional surface water drainage system. In recent years, these natural greenways have been supplemented with open space easements along power line corridors. The Merced Irrigation District (MID) irrigation canal system has also become an important open space feature in the area as has Lake Yosemite.



7.2.1 Agriculture

The historic City center of Merced was established on the alluvial fan and historic flood plain of Bear and Black Rascal Creeks. This soil association, known as the *Wyman-Yokohl-Marguerite Association*, tends to follow an east-west course along the normal stream flow directions in the area and is composed of soils which are mostly considered “Prime.” These prime soils are typically intensely farmed and planted with orchards and row crops.

To the northeast of the existing City center, soils tend to be of poorer quality and mostly used for livestock pasture and grazing. These soils belonging to the *Redding-Pentz-Peters Association* are found on the high terraces trending to the foothills of the Sierra Mountains.

South of the City, in the vicinity of Mission Avenue, soils trend to be characterized as poorly drained saline-alkali soils belonging to the *Lewis-Landlow-Burchell Association*.

The agricultural soil resources and crop production characteristics of the planning area are inventoried in the *Merced Vision 2015 General Plan Program EIR*. Agricultural soil characteristics are also evaluated in the Sustainable Development Chapter of this Plan. This inventory data and background information is incorporated in this Chapter by reference.



7.2.2 Recreation and Park Facilities

The City of Merced has a well developed network of parks and recreation facilities. From its beginning until the 1960's, the City's park system grew at a moderate rate. During the 1970's, however, it grew by leaps and bounds. In 1970,

there were 47 acres of developed park land as compared to 133 acres in 1980.

A number of factors contributed to this situation. First, the majority of the park sites were acquired prior to 1970. As a result, funding emphasis in the 1970's and 1980's was placed on development rather than acquisition. Second, a strong local, state, and national economy provided an increase in grants and other funding sources.

A general formula used by many parks and recreation experts, as well as by the City of Merced, is to have five acres of City park land for every thousand residents. In addition to the five acres of City park land per thousand people, the parks and open space system is supplemented by school grounds, church grounds, Lake Yosemite and such. These supplemental recreation opportunities are not included in the standard.

Using this standard, Merced has fallen behind its target in recent years in terms of acquiring park land for the current population. The City had acquired approximately 254 acres of park land within the City by 1996. This translates into 4.16 acres per 1000 people (based on a 1996 City population of 61,000), or a user-equivalent population of 50,800.

In terms of developed parks, only 162+/- acres have been developed into usable parks and open space at this time. The result is 2.62 acres of improved park land per thousand people, or a user-equivalent population of 32,400. See **Table 7.1** on the next page for an inventory of City park land and **Figure 7.1** for a map of parks in the Merced area.

Table 7.1

**1996 Merced City Park Land Inventory
 By Type**

Summary	Number	Improved Acres	Unimproved Acres	Total Acres
Total Community Parks	4	58.0	74.0	132.0
Total Neighborhood Parks	10	49.3	15.0	64.3
Total Mini-Parks	16	8.5	3.0	11.5
Total Greenways	3	45.6	0.0	45.6
TOTAL	33	161.4	92.0	253.4

It is important to keep in mind that the adequacy of Merced's park system should not merely be judged on the ratio of park acreage to total population. Location, facilities and user demand are equally important.

Park Facilities

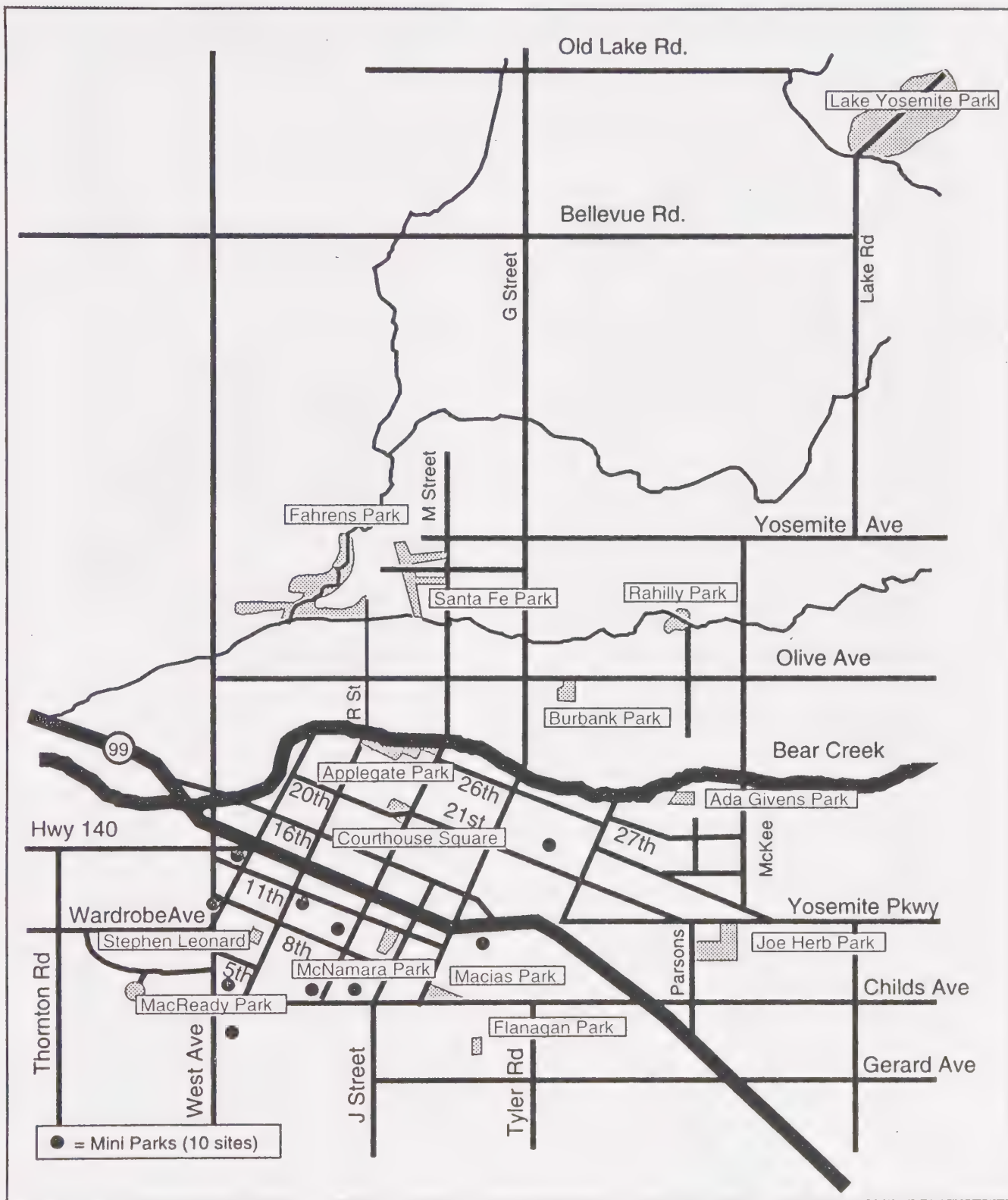
Generally, City parks are divided into four types: mini, neighborhood, community, and greenways. The concept of four types, or hierarchy, provides for park and recreation needs at varying levels; however, there is some overlap among the various types of parks and their uses. Translated into physical form, they create a system of parks.

The first three types of parks provide active play space. The fourth type, greenways, connect various sites with exclusive paths for pedestrians and bicyclists, helping to link the parks into a system and the park system into the lives of Merced residents. Beyond the City parks are regional parks serving many communities, which are generally provided for by the County of Merced.

Mini-Parks accommodate casual, spur of the moment recreational needs and

function more as an extension of the front yards of adjoining residences. Facilities within mini-parks should be flexible but meet the needs of a changing neighborhood population. At the same time they can be tailored to the characteristics of the neighborhood. For instance, tot-lots could be provided in neighborhoods heavily populated by children. Elderly residents may desire meeting places or garden areas. Teen-agers may prefer surfaced courts for ball games, roller blading and skateboarding.

Neighborhood Parks serve a larger area than a mini-park and have a wider variety of facilities to serve a larger and more diverse population. Facilities within neighborhood parks vary depending on the recreational resources available in the neighborhood. Some neighborhoods may have school facilities which supplement the City's park facilities resources. In some instances, neighborhood park facilities approach community park standards (i.e., swimming pool, lighted baseball diamonds and community meeting hall). Although there is a hierarchy to parks, there also exists certain overlap among



SOURCE: City Focus Magazine/On-Target Marketing

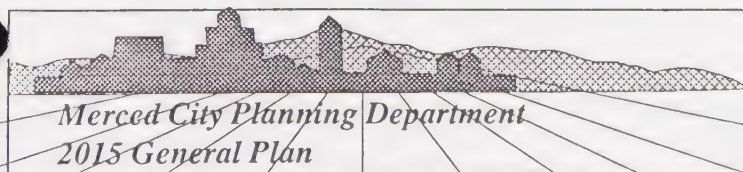


Figure 7.1

Parks in the Merced Area

the different levels of parks and their uses.

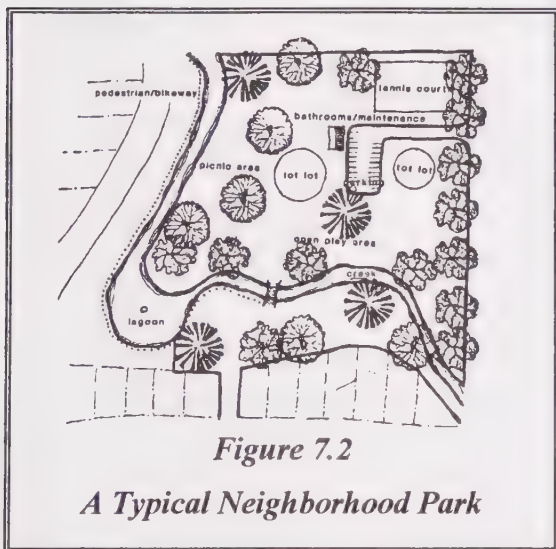


Figure 7.2

A Typical Neighborhood Park

Community Parks serve significant portions of urban area based on size and type of facilities. As a minimum, a Community Park serves several neighborhoods and, depending on population density, from 15,000 to 20,000 people. A community park is the nucleus of the park system and is usually the location where members of the community congregate for city-wide functions or programs.

The community park is usually over 15 acres in size and includes neighborhood playground facilities as well as appropriate facilities for city-wide use. Or, it may be more open space oriented providing the community a break within the urban environment or contact with nature and pleasant surroundings in which to engage in a variety of active and passive recreational activities.

Features of a community park may include large picnic areas, swimming pool, baseball diamonds, nature trails, soccer fields, playgrounds, zoo,

community building or other city-wide activity areas. Certain features, such as Applegate Park Zoo and Merced Open Air Theater (MOAT), have such widespread appeal beyond the boundaries of the City that these areas overlap into the category of regional parks.

Greenways connect the various park sites with paths exclusively for pedestrians and bicyclists. Greenways weave through the residential neighborhoods connecting larger public uses (schools, open space, commercial uses) and provide many points of physical and visual access to the park sites. Some greenways may also act as mini-parks because of play and exercise equipment placed along the paths. Other greenways act as valuable open space greenbelts through a neighborhood.

Regional Parks such as Lake Yosemite serve many cities and are sometimes used as resting stops for travelers. Often the focal point of a regional park is a lake, river or other natural resources. Typically regional parks are provided by counties and the state. If distant from an urban area, their accessibility is generally limited to those who can drive. Lake Yosemite is unique in this respect due to the fact that the park is becoming more accessible to Merced residents via a system of bike and walking paths, and City and UC campus-related development may surround this park facility in future years.

Private Recreation Facilities In addition to public park facilities and programs, there are a number of private or commercial recreational facilities serving the community. These extend the recreation opportunities for Merced

residents. Included are racquet ball courts, bowling lanes, swimming pools, various church-operated facilities, local gyms and fitness clubs, and nearby golf courses. Private and commercial facilities are a valued supplement to the recreation programs offered in Merced.



7.2.3 Biological Resources

The Merced planning area contains several important habitats which could house species of plant and animal life considered “sensitive.” Several creeks, including Fahrens, Cottonwood, Black Rascal, Bear, and Miles along with the Hartley Slough, provide habitat for native plants and animals. These waterways also contain many introduced or non-native species. See Section 8.2.3 and **Figure 8.2** in the Sustainable Development chapter for further discussion and a map of biological resources in the planning area.

The northern portions of the planning area, in the region of Lake Yosemite Park, contain seasonal wetlands and vernal pools in scattered locations. These seasonal wetlands and vernal pools provide potential habitat for several

species of wildlife which are listed as threatened and endangered.

Throughout the planning area, the Merced Irrigation District irrigation canal system also provides important wildlife and open space habitat.

Table 7.2 contains a list of Special Status plant and animal species which are likely to be found in the City’s planning area. In general, the City of Merced and its surrounding area provide habitat for many species of resident and transient terrestrial wildlife. Many species use the region’s varied riparian habitats and eucalyptus woodlots. Agricultural fields and orchards provide habitat for many species of wildlife as well.

The City’s open space areas have provided an important habitat for the region’s native plant and animal species over the years. Policies and programs, such as the City’s stream channel development setback standards, have been implemented in the City to preserve and protect these natural riparian areas. These programs, in conjunction with the City’s park system, have been effective in preserving and protecting many of the native plant and animal species of the region.



Table 7.2

Merced Area Potential Special Status Plant & Animal Species

LISTED SPECIES	COMMON NAME	HABITAT
Invertebrates		
<i>Branchinecta conservatio</i>	Conservancy fairy shrimp	Vernal pools and associated wetland habitats
<i>Branchinecta longiantenna</i>	Longhorn fairy shrimp	Vernal pools and associated wetland habitats
<i>Branchinecta lynchi</i>	Vernal pool fairy shrimp	Vernal pools and associated wetland habitats
<i>Desmocerus californicus dimorphus</i>	Valley elderberry longhorn beetle	Riparian forests with an understory of elderberries
<i>Lepidurus packardii</i>	Vernal pool tadpole shrimp	Vernal pools and associated wetland habitats
Reptiles		
<i>Thamnophis gigas</i>	Giant garter snake	Streams and sloughs, particularly with mud bottoms
Birds		
<i>Branta canadensis leucopareia</i>	Aleutian Canada goose	Lacustrine, fresh emergent wetlands, and moist grasslands, croplands, pastures, and meadows
<i>Buteo swainsoni</i>	Swainson's hawk	Grasslands or suitable grain or alfalfa fields, or livestock pastures
<i>Falco peregrinus anatum</i>	American peregrine falcon	Riparian areas, coastal and inland wetlands
Mammals		
<i>Vulpes macrotis mutica</i>	San Joaquin kit fox	Grasslands, saltbush scrub, open woodlands. Foothills and alkaline sink valley floor habitats
Plants		
<i>Castilleja campestris</i> ssp. <i>succulenta</i>	Succulent owl's-clover	Vernal pools
<i>Eryngium racemosum</i>	Delta button-celery	Vernally mesic clay depressions in riparian scrub
<i>Neostaphia colusana</i>	Colusa grass	Vernal pools
<i>Orcuttia inaequalis</i>	San Joaquin Valley orcutt grass	Vernal pools
<i>Orcuttia pilosa</i>	Hairy orcutt grass	Vernal pools
<i>Tuctoria greenii</i>	Greene's tuctoria	Vernal pools
OTHER SPECIAL STATUS SPECIES		
Invertebrates		
<i>Aegialia concinna</i>	Ciervo aegialian scarab beetle	Sandy substrates
<i>Helminthoglypta allynsmithi</i>	Merced Canyon shoulderband snail	Unknown
<i>Lytta molesta</i>	Molestan blister beetle	Dry vernal pool vegetation
Amphibians		
<i>Ambystoma californiense</i>	California tiger salamander	Grasslands and grassy understory of valley foothill hardwoods adjacent to quiet waters of rain pools, ponds, lakes
<i>Rana aurora draytonii</i>	California red-legged frog	Well-shaded woodland ponds and streams, and prefers quiet pools in permanent streams

OTHER SPECIAL STATUS SPECIES	COMMON NAME	HABITAT
<i>Scaphiopus hammondi</i>	Western spadefoot toad	Primarily grassland, also washes, floodplains of rivers, alluvial fans, playas, and alkali flats
Reptiles		
<i>Clemmys marmorata pallida</i>	Southwestern pond turtle	Ponds, streams, marshes, canals, and irrigation ditches
Birds		
<i>Accipiter cooperii</i>	Cooper's hawk	Stands of live oak, riparian deciduous, or other forest habitats
<i>Agelaius tricolor</i>	Tricolored blackbird	Nests near freshwater, prefers emergent marsh of dense cattails or tules, but also uses thickets of willow, blackberry, and wild rose. Forages in grasslands and croplands
<i>Athene cunicularia</i>	Burrowing owl	Open, dry grasslands and desert habitats
<i>Buteo regalis</i>	Ferruginous hawk	Forages in large, open tracts of grasslands, sparse scrubland, and deserts
<i>Charadrius montanus</i>	Mountain plover	Short grasslands and plowed fields
<i>Elanus caeruleus</i>	White-tailed kite	Coastal and valley lowlands in agricultural areas
<i>Lanius ludovicianus</i>	Loggerhead shrike	Open grasslands or scrub with shrubs or trees and low, sparse herbaceous cover
<i>Plegadis chihi</i>	White-faced ibis	Forage in fresh emergent wetland, muddy ground in wet meadows and irrigated, or flooded, pastures and croplands. Need extensive marshes for breeding
Mammals		
<i>Dipodomys nitratoides brevinasus</i>	Short-nosed kangaroo rat	Gently undulating to level terrain with herbaceous vegetation with scattered shrubs
<i>Eumops perotis californicus</i>	Greater western mastiff bat	Semi-arid to arid habitats, including deciduous woodlands, annual and perennial grasslands and urban areas
<i>Myotis ciliolabrum (Myotis leibii)</i>	Western small-footed myotis bat	Primarily open stands in forests and arid wooded, or brushy areas near water
<i>Plecotus townsendii townsendii</i>	Pacific western big-eared bat	Mesic habitats where it gleans from brush or trees along edge of habitat
Plants		
<i>Agrostis hendersonii</i>	Henderson's bent grass	Mesic valley and foothill grasslands and vernal pools
<i>Atriplex persistens</i>		Vernal ponds in chenopod scrub
<i>Calycadenia hooveri</i>	Hoover's calycadenia	Rocky areas of cismontane woodlands and valley grasslands
<i>Clarkia rostrata</i>	Beaked clarkia	Cismontane woodlands and valley grasslands
<i>Downingia pusilla</i>	Dwarf downingia	Mesic valley and foothill grasslands, and vernal pools
<i>Hollisteria lanata</i>	Hollisteria	Grasslands on clay soils
<i>Juglans californica</i> var. <i>hindsii</i>	Northern California black walnut	Riparian forest and woodland
<i>Monardella leucocephala</i>	Merced monardella	Sandy areas of valley and foothill grasslands
<i>Phacelia ciliata</i> var. <i>opaca</i>	Merced phacelia	Clay areas of valley and foothill grasslands
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	Shallow freshwater marshes and swamps



7.2.4 Water Resources

The water resources of the Merced area are derived from two sources: local rainfall and runoff from the Sierra to the east. Sierra runoff impacts both groundwater and surface water resources of the area. The Merced Irrigation District's (MID) principal water source is the Merced River which originates in Yosemite National Park and flows westerly toward the San Joaquin River in the valley.

The District's principal storage reservoir is Lake McClure, located in Mariposa County to the east of the City's planning area. Lake McClure contains about one million acre-feet of storage capacity which is roughly equivalent to the average annual flow of the Merced River.

As noted under *Section 7.2.3, Biological Resources*, the City of Merced contains a rich and varied surface water system which includes a natural creek and drainage system, the MID irrigation canal system, and Lake Yosemite in the northeastern portion of the City's planning area.

The surface water system of the region is vulnerable to discharge containing contaminants. Pollution of the region's surface water system mostly results from

direct stormwater and irrigation water discharges into the system. The primary impact of this pollution is on wildlife which relies on riparian habitats in the region. Overall, however, as a result of federal and state regulations of surface water discharge, regional surface water resources are relatively free from pollution.

The Merced region is situated over a large underground aquifer with ground water depths ranging from within five feet of the surface to over 1,200 feet deep.

Groundwater quality is generally excellent within the Merced planning area. However tests have found elevated levels of nitrate-nitrogen in some wells in the Livingston/Atwater area north of the City's planning area and in shallow aquifer areas.

Two other major sites of groundwater contamination are located on the former Castle Air Force Base property northwest of the City and the GE Kendall plant in the southeast portion of the City's planning area. The Castle site has a large TCE plume and a number of other solvents have been found in the groundwater. Contamination from the Castle site is not likely to have any significant effect on the ground water resources found in the Merced planning area.

High levels of TCE and other Chlorination solvents have been found at the Kendall plant site. Contamination remediation programs have been in effect on this site since 1986 and are expected to continue for many years until the problems are eliminated.

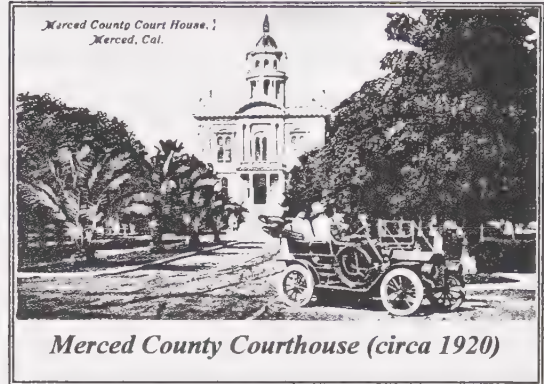
Shallow groundwater resources are the most vulnerable to contamination; it is these same shallow groundwater sources where many private domestic wells draw from the region's groundwater pools. Municipal or public water supplies are usually drawn from depths reaching 800 feet or more and are much less susceptible to contamination by man's activities.

On a much smaller scale, several scattered sites containing pockets of groundwater contamination have been found around and within the City. These sites are generally thought to be attributable to local dry cleaning establishments. The state and county also maintain a list of underground petroleum storage tanks that have contaminated soils as a result of leakage. Cleanup efforts are on-going on all of these sites.

7.2.5 Mineral Resources

The City of Merced does not contain any mineral resources that require managed production, according to the State Mining and Geology Board. The state legislature adopted the Surface Mining and Reclamation Act (SMARA) in 1975, which designated Mineral Resource Zones (MRZ) for areas possessing minerals which are of state-wide or regional significance.

No Mineral Resource Zones exist within the City of Merced or in the area designated for future expansion of the City. As a result, the General Plan does not need to identify locations of resource sectors, nor are policies for the management of mineral resources required.



7.2.6 Cultural Resources

Archaeological sites are defined as locations containing significant levels of resources which identify human activity. Very little archaeological survey work has been conducted within the City or its surrounding areas. Creeks, drainage and sloughs exist in the northern expansion area of the City, and Bear Creek passes through the developed area. Archaeological sites in the Central Valley are commonly located adjacent to waterways and represent potential for significant archaeological resources.

Paleontological sites are those that show evidence of pre-human existence. Quite frequently, they are small outcroppings visible on the earth's surface. While the surface outcroppings are important indications of paleontologic resources, it is the geologic formations that are the most important. There are no known sectors within the project area known to contain sites of paleontologic significance.

The National Register of Historic Places, the California Historical Landmarks List and the California Inventory of Historic Resources identify several sites within the City of Merced. These sites are listed on the Merced Historical Site Survey and

maintained by the Merced Historical Society.

A discussion of these resources, and the General Plan policies governing the preservation of historical resources in the City of Merced, are contained within the Sustainable Development Chapter (8) of this document.

7.3 ISSUES & INTENT

Open space is one of the essential elements contributing to the high quality of life in the City of Merced. It provides a multitude of functions that are beneficial to the community. Open space provides parks and recreation areas, preserves natural resources, provides an avoidance mechanism for development near hazardous areas and provides buffers between non-compatible uses.

Of the total land area within the Merced Specific Urban Development Plan (SUDP) area, 7.2% (over 1,400 acres) has been inventoried as “open” including areas preserved for permanent open space, parks, water basins and beltway corridors, agriculture, etc. Additional area will be preserved for open space for recreation, wildlife habitat conservation or agricultural use through the site development review process as wetlands habitat.

Significant land outside the Merced SUDP boundary is designated for agricultural use. The existence of this prime agricultural land is one of the basic reasons for establishment of the Merced SUDP boundary as it is designated on the General Plan Land Use Diagram.

The purpose of the Open Space, Conservation, & Recreation Chapter is:

- To assure the continued availability of open land for the enjoyment of beauty, for recreation, and for preservation of natural resources;
- To guide development in order to make discerning use of the City’s natural, environmental and cultural resources;
- To maintain any valuable resource areas necessary for the continued survival of significant wildlife and vegetation;
- To provide the foundation for a comprehensive open space management system as delineated on the Open Space, Conservation and Recreation Plan;
- To establish the basis for City collaboration with adjacent jurisdictions involving broader open space and environmental resource management, including linkages with adjoining open spaces and trail systems;
- To work toward balancing the interests of preservation of agricultural pursuits and the pastoral lifestyle, coupled with increasing development pressures throughout the Merced urban area.

The General Plan recognizes that the urban form of the City of Merced will be shaped through the retention of open space and agricultural lands. The Land Use Plan proposes the preservation of open space by concentrating urban development and channeling future development north and south of the existing City onto lands with lesser

overall agricultural value. Future City expansion will be clustered around mixed-use activity centers along major transit corridors.

The General Plan takes advantage of the open space opportunities afforded by utility rights-of-way, using them as trails, landscaped environmental corridors, or parks. Canals and streams are also used as multi-purpose trailways and/or linear parks. Landscape corridors within the beltway system provide open space relief and add to the open space character of the Merced community. The intent is to maintain and enhance landscaped beltway corridors through sensitive design and appropriate regulation.



Photo courtesy of Roger Wyan/Merced Sun-Star

7.4 TYPES OF OPEN SPACE

The following is a brief description of the types of open space which are subject to the policies and standards contained in the Merced City Open Space,

Conservation and Recreation Chapter. An explanation of permitted and required land uses within the open space category is contained in the General Plan Land Use Element.

Merced is fortunate to have two types of facilities, parks and open space, for active and passive recreation and visual attractiveness. These open space areas integrate a wide variety of open space needs including resource conservation, public health and safety, wildlife protection and recreation.

7.4.1 Parks

The purpose of a park is to provide space and facilities for recreation. Recreation primarily is thought of as active play space (tennis courts, baseball fields, or jogging trails) and facilities (swimming pools, playground equipment, recreation halls, or community centers). But parks also include areas for passive recreation, such as open lawn for picnicking and relaxation.

7.4.2 Open Space

Open space, on the other hand, is generally thought of as an area, small or large, preserved in and for its natural beauty. Open space areas may be part of a larger park, such as the lagoon at Rahilly Park, or stand alone as cool-looking refreshing vistas, such as the Eucalyptus trees on "M" Street, Bear Creek, or the agricultural land surrounding the City.

These open space areas are also often part of areas set aside for wildlife conservation, resource protection and other open space needs.

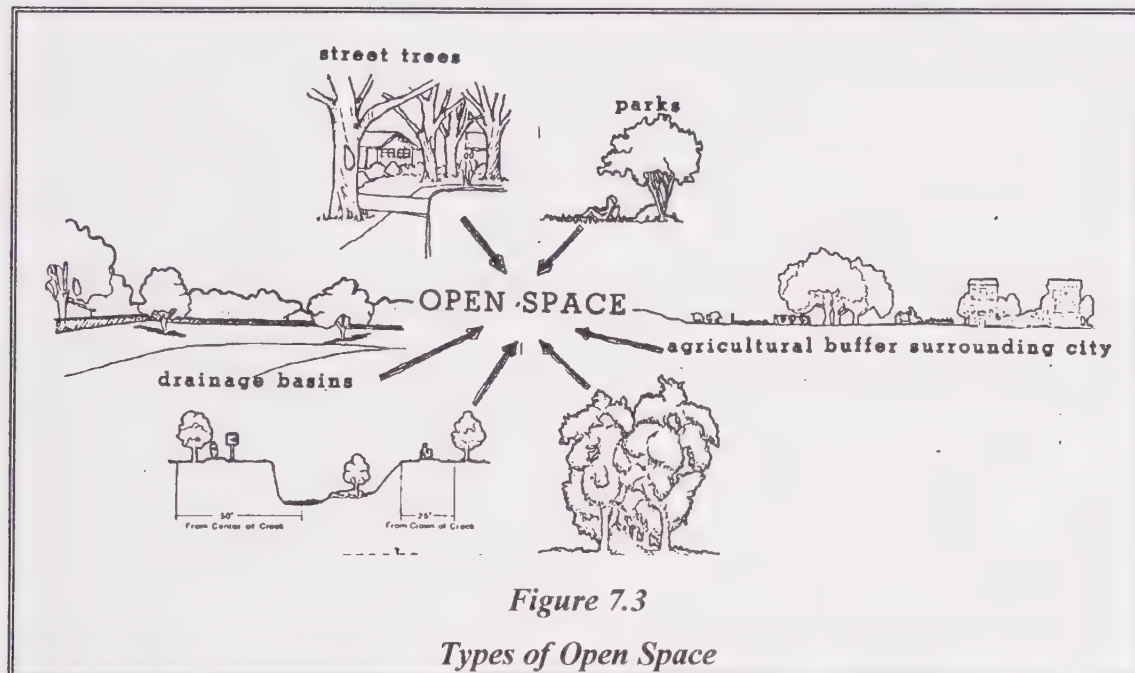


Figure 7.3

Types of Open Space

Open space areas generally are not used as often or as intensely as parks, but they are equally important, even to people who never actively use them but only pass by or look out on them.

Whether used for active or passive recreation, parks and open space have a positive impact on the total community's quality of life by providing variety and breathing spaces within the urban environment.

Certain open space areas are developed around necessary public infrastructure such as ground water recharge areas and stormwater drainage retention ponds. Some types of ponding basins are a requirement of the Merced County Critical Area Drainage Plan. This drainage plan requires retention of storm drainage in specified locations or ponds to regulate flow into drainage channels.

Storm water retention and/or detention basins are primarily used for flood control with a secondary purpose of

providing ground water recharge. These basins are intended to be utilized for open space and limited recreational uses where practical.

Basins are often designed as deep pits containing drainage water. However, City policy requires that they be designed as open space or park-like features as much as possible. This is particularly important in residential areas. Shallow, broad depressions with turf, trees, and perhaps some recreation equipment are preferred design characteristics. Such shallow basins, however, require the use of more land.

To maximize the use of land, consideration is to be given to combining the need for future parks and future drainage basins in the same location. The appropriate design of such combined facilities can provide for open space and recreation activities while accommodating flood control and storm drainage needs.

7.4.3 Agriculture

Merced is located within a valuable agricultural area. Interim agricultural use is also encouraged within designated “Areas of Interest” around the City (see Section 2.6.3). Agriculture serves the purpose of limiting low density suburban type development. Low-density development could preclude future urban type densities and uses from being developed as needed. Thus, agricultural open space use is seen as an intermediate use until such areas are needed for urban expansion.

7.4.4 Schools & Parks

School facilities act as a supplement to the park system in Merced. They provide virtually the same active recreation facilities and opportunities as a typical City park. Passive recreation facilities are usually limited, however, at school recreation sites. The City of Merced and three local school districts, Merced Union High School, Merced City Schools and Merced Community College, have worked closely in the past to share facilities and programs.

The City and school districts have promoted development and design of combined facilities, incorporating active and passive recreation opportunities (*Figure 7.4*). Ada Givens and Burbank School/Parks are examples of combined facility planning. These efforts should continue when new school sites are considered in all school districts within the City. In addition, potential still exists to redevelop existing school sites into more park-like settings.

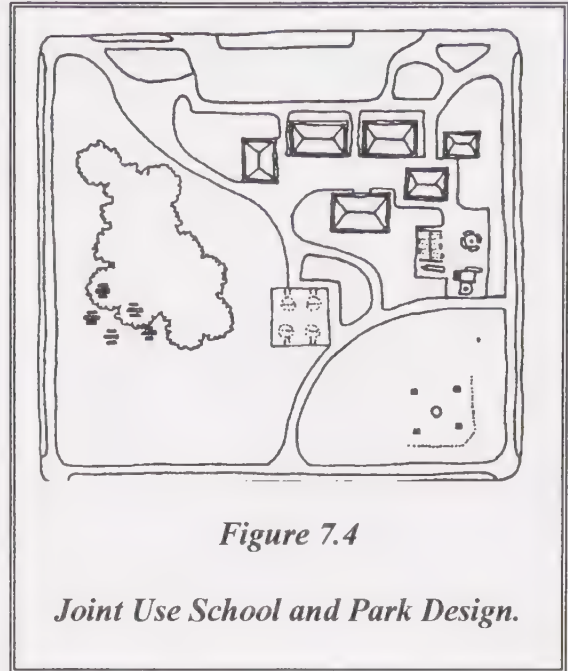


Figure 7.4

Joint Use School and Park Design.

7.4.5 Other Open Space Features

Merced is fortunate to have open space features scattered throughout and surrounding the City. Many are valued in and of themselves while others are a portion of larger facilities.

Continuing emphasis should be placed on locating new park sites in areas where open space features currently exist. Such features as wetlands, riparian areas, or important cultural resource sites could be incorporated into parks. This not only preserves the features but also creates a unique and often more mature park at the initial development stage.

Stands of mature eucalyptus trees, creek or irrigation channels, power-line easements, and wildlife habitat areas are all elements which could be incorporated into parks, thereby achieving a joint goal: preservation and enhancement of Merced's parks and open space.

7.5 OPEN SPACE, CONSERVATION, & RECREATION GOALS, POLICIES, AND ACTIONS

One of the overall purposes of the City of Merced's General Plan is to preserve and enhance the natural and man-made environmental resources of the City. The goals, policies and actions of this Open Space, Conservation, and Recreation chapter are designed to achieve this purpose while permitting the long-term growth and development of the City.

The General Plan Land Use Diagram identifies areas proposed for open space uses as Open Space for Parks and Recreation. This land use classification is discussed in the Land Use Element of this Plan (Section 3.9).

The Open Space, Conservation, & Recreation chapter contains policies for open space lands and for conservation of natural and man-made resources within the City's SUDP. This section also contains policies for the development of recreation resources in the community and the use of open space lands for recreation purposes.

In addition to the General Plan Land Use Diagram, several figures depict natural

resources in the Merced City Planning Area. This functions as the inventory of open space lands required by state law. Additional information on existing natural and man-made resources is also included in the *Merced Vision 2015 General Plan Program Environmental Impact Report*.

The goals of this chapter are grouped into five areas as follows:

- **Goal Area OS-1:** Open Space for the Preservation of Natural Resources;
- **Goal Area OS-2:** Open Space for the Managed Production of Resources;
- **Goal Area OS-3:** Open Space for Outdoor Recreation;
- **Goal Area OS-4:** Open Space for Public Health and Safety; and
- **Goal Area OS-5:** Conservation of Resources.

In addition to the goals, policies and actions contained in this chapter, open space and conservation objectives are supported by goals, policies and actions contained in other chapters of this General Plan (Land Use, Urban Expansion, Sustainable Development, etc.).



Goal Area OS-1: Open Space for the Preservation of Natural Resources

GOALS

- Maintenance of Merced's Biological Resources
- A High-Quality, Expanding Urban Forest
- Preservation of Scenic Corridors and Resources
- Improvement and Enhancement of Water Quality

POLICIES

OS-1.1 Identify and preserve wildlife habitats which support rare, endangered, or threatened species.

OS-1.2 Preserve and enhance creeks in their natural state throughout the planning area.

OS-1.3 Promote the protection and enhancement of designated scenic routes.

OS-1.4 Improve and expand the City's urban forest.

OS-1.5 Preserve and enhance water quality.

(Notes: The preservation and protection of important soil resources is addressed under Conservation [erosion], Open Space for the Managed Production of Resources [agricultural preservation policies], and the Urban Expansion Chapter of this General Plan, where the issue of growth impacts on prime soils is addressed.)

Policy OS-1.1

Identify and Preserve Wildlife Habitats Which Support Rare, Endangered, or Threatened Species.

The Merced Planning Area is known to contain potential habitat for several sensitive wildlife species. Much of this potential habitat is located along riparian corridors of the community's creek system and in vernal pools found in the northeastern part of the City's SUDP area. As a matter of law, the City is required to review development proposals that threaten to impact known sensitive species. As a matter of policy, the City is committed to integrating potential wildlife habitat into the regional park and recreation system to enhance community awareness of the region's wildlife resources and to provide shelter for native plant and animal life of the area.

Implementing Actions:

- 1.1.a Identify, and recognize as significant, wetland habitats which meet the appropriate legal definition of Federal and State law.**

Wetlands, as defined by statute, have special regulations which must be followed as opposed to other riparian or "water" areas of the community. This policy provides for the identification of those lands subject to special Federal and State rules and standards and those which are solely subject to local policies and standards. Development applications will be reviewed to determine if potential wetland habitats exist on-site, and wetland delineation may be required in accordance with current U.S. Army Corps of Engineers guidelines.

“Wetlands” containing sensitive plant and/or animal species should be protected according to law. Specific protection policies should include:

- a) protection of wetland watershed areas;
- b) establishment of minimum setback areas around “wetlands” in accordance with the recommendations of California Department of Fish and Game, U.S. Fish and Wildlife Service, or a qualified wildlife biologist.

The City, in cooperation with the County, may consider establishing a mitigation “banking” program in accordance with state and federal guidelines for vernal pools and other types of wetland habitats. Vernal pool preserves may be incorporated into other open space preserves (i.e. parks and trails) that would not be directly impacted by urban development.

1.1.b Urban development should occur away from identified sensitive species habitats unless specific provisions to ensure adequate protection and monitoring exist.

When, as a result of specific site studies, it is determined that “potential” habitats actually contain sensitive or endangered species, development rules, policies and standards should be applied to assure that further degradation of these species does not occur. These policies should emphasize “avoidance” as the most desirable mitigation alternative. In instances where open space areas are established to protect a sensitive wildlife species, those areas shall be subject to appropriate management principles as approved by the City upon recommendation of the California Department of Fish & Game or the U. S. Fish and Wildlife Service.

1.1.c Establish development review procedures which minimize impact on sensitive species and their habitat.

Maintain an inventory of potential wetlands, vernal pools, threatened and endangered plant and wildlife species sightings, and wildlife habitat areas. Require detailed biological assessments of these areas, including mitigation plans if necessary, prior to development. To permit contiguous development with sufficient density, it may be necessary to develop some areas containing vernal pools and marshes; on-site mitigation areas for these wetlands should be contiguous with existing wetlands or the open space network of parks and trails.

1.1.d Design parks and open space corridors to provide linkages between potential habitat areas.

It is important to develop linkages between open space areas to facilitate wildlife movement between designated habitat areas. This can be accomplished by connecting the East-West trending urban stream corridors with a north-south corridor provided by power lines, railroad rights-of-way and the regional irrigation canal network. Whenever possible, park open space areas should be connected to one or more of these designated open space corridors.

1.1.e Manage Open Space areas to reduce the risk of injuring wildlife species with harmful chemicals, insecticides, herbicides, etc.

Within the City’s open space network containing protected wildlife species, specific management practices may be required under Federal and/or State regulations. In other open space areas, care should be taken to assure that management practices do not cause an unnecessary threat to area native plant and animal life.

1.1.f Design improvements within parks, open space areas and open space corridors to facilitate animal life movement.

Creek road crossings should utilize culvert or bridge designs which provide adequate areas for wildlife to travel along the creek corridor without being forced into a motor vehicle pathway. Fences and other barriers should be designed to allow passage of native wildlife species throughout the open space area.

Policy OS-1.2

Preserve and Enhance Creeks in Their Natural State Throughout the Planning Area.

The urban creek system of Merced provides an important open space element within the City and provides important wildlife habitat. This creek system is also an integral part of the City's drainage system. The City is committed to a policy of preserving and protecting these important open space resources and assuring their continued viability as open space and drainage corridors.

Implementing Actions:

1.2.a Designate major creeks, streams, woodlands, and other appropriate areas in the City's SUDP as Open Space corridors.

Major creeks, riparian habitat, significant woodlands, and other sensitive environmental features should be conserved as open space amenities, when feasible. Significant stands of trees and knolls should also be preserved. Fencing and piping of creeks should be avoided.

Channelization improvements should be naturalized. Whenever possible, in keeping with City standards and CEQA required mitigation measures, major creeks, riparian habitat, significant woodlands and other environmental features should be incorporated into the design of development.

1.2.b Continue to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and recreation areas.

Public access should be permitted, while important natural features and sensitive habitats are preserved. Corridor width shall be dictated by site specific circumstances of the creek, however, at least the established minimum setback shall be maintained as Open Space.

1.2.c Encourage alternatives to concrete channeling of existing creeks and streams as part of any flood control project and support more natural flood control methods.

There is an inherent conflict between flood control and drainage needs of the community and the value of natural drainage course as open space and wildlife habitat areas. While meandering streams and vegetation have the best wildlife values, they are least efficient in terms of removing flood waters from the community. Stream-way improvement plans must attempt to strike a compromise between drainage needs and open space needs on a case by case basis.

1.2.d Recognize Bear, Black Rascal, Cottonwood, and Fahrens Creeks as important open space resources and promote their protection and enhancement through the use of natural plant materials.

Use of natural or native plant landscape material instead of turf along creek banks whenever possible may result in improvement of the habitat value of the channel and reduce maintenance costs to the City.

Policy OS-1.3

Promote the Protection and Enhancement of Designated Scenic Routes.

Historically, the City of Merced has developed along routes and corridors which have come to be part of the City's identity. The City has designated many of these scenic routes for special development review regulation in the past. This practice has served the City well and will be continued into the future.

Implementing Actions:

1.3.a Identify, and where appropriate, designate additional scenic routes within the City's expanded SUDP and Sphere of Influence.

Use the following criteria to identify scenic routes:

- a) The scenic area through which the corridor passes should possess important scenic, historic, or aesthetic value.
- b) As appropriate, the scenic corridor should contain a variety of vegetation or landscape types.
- c) Routes of historic significance which connect places of interest should be considered even though the route is of marginal scenic value.
- d) Routes which incorporate significant views or vistas should be considered.

The proposed UC Campus Parkway should be considered for scenic corridor status once an alignment has been established.

1.3.b Preserve the nine currently-designated Scenic Corridors.

The nine Scenic Corridors are as follows:

- a) North and South Bear Creek Drive within the City limits.
- b) N Street from 16th Street to the Merced County Courthouse.
- c) 21st Street from the Merced County Courthouse to Glen Avenue.
- d) M Street from Black Rascal Creek to Cardella Road.
- e) West 28th Street from Mercy Hospital to G Street.
- f) Lake Road from Yosemite Avenue to Lake Yosemite.
- g) R Street (extended) from Black Rascal Creek to Bellevue Road.
- h) Olive Avenue East of McKee Road.
- i) M Street from 18th Street to Bear Creek.

1.3.c Utilize established guidelines for the review of projects proposed within a designated Scenic Corridor.

The following guidelines apply to the review of applications for development in vicinity of a designated Scenic Corridor:

- a) Utility lines should be placed underground whenever feasible.
- b) Signing should be carefully controlled to insure that it does not detract from the scenic beauty of the corridor. Specific guidelines for signing along these corridors should be established.
- c) Limit the intrusion of future land uses which may detract from the scenic quality of the corridor.
- d) Unsightly mechanical and utility structures shall be screened from view by use of planting, grading, and fencing.
- e) Heights and setbacks of buildings should be regulated to avoid obstructing important scenic views.
- f) Every effort should be made to preserve and properly maintain existing stands of trees and other plant materials of outstanding value.
- g) Structures on private and public properties visible from the corridor should be maintained in good condition (free of trash, weeds, etc.).
- h) Architectural and landscape design should result in an attractive appearance and a harmonious relationship with the surrounding environment.

1.3.d Explore the feasibility of creating some scenic corridors in South Merced through the use of special landscaping standards..

As part of the specific planning process proposed for South Merced, potential scenic corridors can be identified and preliminary policies proposed for adoption.

Policy OS-1.4

Improve and Expand the City's Urban Forest.

Early in the development of Merced, trees were planted to provide shelter from wind and summer heat. As a result, the City has a large number of mature trees along its streets, in public places and in private yards and has been designated a "Tree City USA". The City's urban forest provides valuable wildlife habitat and creates an attractive atmosphere for residents and visitors alike. Additionally, the City's trees have substantially reduced summer heat and glare around paved areas, thereby helping the City maintain a cooler summer average temperature and reduce energy usage. In continuing this tradition, the City of Merced has established policies and programs to protect, maintain and expand its urban forests.

Implementing Actions:

1.4.a Continue the City's Street Tree program (Merced Municipal Code 14.12) and explore alternative funding sources for providing long-term maintenance.

The City needs to explore new and innovative ways of maintaining trees in public spaces. This could include establishment of landscape maintenance service areas within new developments and other programs such as an "Adopt-A-Tree" program within the City where a business or individual would assume the responsibility for the long-term care and maintenance of a significant urban tree or stand of trees.

1.4.b Continue to require new development to plant street trees approximately 40 feet apart, at a maximum, along City streets.

Tree planting policies have been established by the City for new development projects. These practices are to be continued. Exceptions to the spacing requirements are granted in selected areas where trees may interfere with other public facilities, such as street lights, traffic signals, etc.

1.4.c Work with local non-profit agencies, service clubs, and other voluntary organizations to plant trees and shrubs in appropriate areas throughout the City.

As part of an overall City beautification effort, local residents and service clubs, along with non-profit groups and businesses, can assist in expanding the City's urban forest programs into areas which are already developed with less than a full complement of tree plantings.

1.4.d Continue to promote Merced's "Tree City USA" designation with Arbor Day and other public events.

These programs serve to generate public awareness of the City's urban forest and the need to protect and enhance this urban amenity.

Policy OS-1.5

Preserve and Enhance Water Quality.

Water has become one of the most important resources for determining a region's ability to grow and prosper. California has enacted several major laws which require local communities to address the complicated issue of resources. The City of Merced has adopted policies addressing the conservation of urban water use and a development strategy to meet future water needs (see Section 5.2.3). The final element in the City's comprehensive water strategy is the preservation of water quality. It should be noted that these policies are directed towards enhancing or implementing the many existing water quality regulations which affect the City and its residents.

Implementing Actions:

1.5.a Utilize storm water retention basins and other "Best Management Practices" to improve the quality of stormwater discharged into the region's natural surface water system.

Working in cooperation with the Merced Irrigation District and Central Valley Regional Water Quality Control Board, study alternative means of implementing cost effective "Best Management Practices" for the treatment of stormwater discharges into the regional surface water system. ("Best Management Practices" are defined as the most up-to-date methods of dealing with a problem as determined by experts in the field. These practices change over time as new techniques and methodologies are developed.) A program may be developed which integrates the use of stormwater retention ponds, groundwater recharge basins, swails, or other techniques which could improve the quality of storm water run-off. Additionally, design guidelines for new development may be prepared to address stormwater treatment prior to its entry into the City's storm water drainage system.

1.5.b Monitor known sources of groundwater contamination within the City and its future expansion area.

In cooperation with the State Department of Health Services, the Central Valley Regional Water Quality Control Board and the Merced County Environmental Health Department, the City will maintain an inventory of known sources of groundwater contamination in the City's planning area. When appropriate, the City may implement policies and/or programs which minimize the threat of aggravating existing problems and eliminate potential future problems of ground water contamination. In some instances, the City may consider extending municipal water service to suburban areas on the City's urban fringe experiencing problems from polluted ground water or to prevent future problems.

1.5.c Monitor ground water in areas in and around the City using septic system wastewater disposal systems.

In cooperation with the Merced County Environmental Health Department, monitor developed areas within the City's planning area for nitrate concentrations exceeding state standards. Where problem areas are identified, study potential resolutions to the problem, including annexation and the extension of City sewer service to the area.

(Notes: Additional policies regarding water supply can be found in Chapter 5, Public Facilities (Goal Area P-3), and policies regarding water conservation can be found later in this Open Space Chapter (Goal Area OS-5).

Goal Area OS-2: Open Space for the Managed Production of Resources

GOAL

- **Protection of Regional Agricultural Resources**

POLICIES

OS-2.1 Protect agricultural areas outside the City's SUDP from urban impacts.

OS-2.2 Relieve pressures on converting areas containing large concentrations of "prime" agricultural soils to urban uses by providing adequate urban development land within the Merced City SUDP.

Policy OS-2.1

Protect Agricultural Areas Outside the City's SUDP From Urban Impacts.

Regional agricultural cropland provides an economic base for the City of Merced, and the long term economic health of the City is directly linked to conserving the productive capacity of regional farmland. To this degree, the City has established urban expansion policies directing urban growth away from "prime" agricultural soils. Policies are also needed to protect farmland along the urban perimeter and to promote open space policies which protect farmland and the farming industry.

Implementing Actions:

- 2.1.a** Explore the use of Farmland Trusts, exclusive agricultural zoning, and the transfer of development rights to protect prime agricultural areas.

The City, in cooperation with the County of Merced and the City of Atwater, can explore various agricultural preservation programs in proximity to the City. The policies should limit present tendencies towards suburbanization of farmlands into large lot Rural Residential developments which have a long term adverse impact on the productive capacity of the region's agricultural production capacity.

- 2.1.b** Establish policies and programs which minimize conflicts between urban and agricultural uses.

Consider adoption of a "right-to-farm" ordinance to inform residents of continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers, in proximity to urban areas. Also, to assert that no pre-existing or future agricultural operation would be considered a nuisance solely due to a change in adjacent land use or adjoining residential development.

- 2.1.c** Minimize conflict between agricultural and urban uses by requiring buffers, such as landscape areas, roadways, or creeks, to separate these uses.

The City should periodically review its urban boundary policies to assure that adjacent farm lands are adequately buffered from urban uses.

(Notes: This policy is supported by other policies and implementing actions found in the Land Use and Urban Expansion Chapters of this Plan.)

Policy OS-2.2

Relieve Pressures on Converting Areas Containing Large Concentrations of “Prime” Agricultural Soils to Urban Uses by Providing Adequate Urban Development Land Within the Merced City SUDP.

Generally, overly restrictive growth and development policies within a city can translate into increased development pressure on rural areas. The City of Merced is committed to providing adequate and economically competitive development land within its urban growth area in order to reduce rural development pressures on the valuable agricultural lands outside the City’s SUDP and in the surrounding region.

Implementing Actions:

This important policy will be carried out through several implementing actions found in the Land Use, Public Services and Facilities, and Urban Expansion Chapters of the *Merced Vision 2015 General Plan*. These programs are not duplicated here under this policy heading.

Goal Area OS-3: Open Space for Outdoor Recreation

GOALS

- **High-Quality Recreational Open Space**
- **Adequate Public Recreation Facilities**
- **Comprehensive Urban Trail and Bike Path System**

POLICIES

- OS-3.1** Provide high-quality park and open space facilities to serve the needs of a growing population.
- OS-3.2** Maintain and expand the City's Bikeway and Trail System.
- OS-3.3** Maintain the City's existing high-quality open space facilities.
- OS-3.4** Develop a diverse and integrated system of park facilities throughout Merced.

Policy OS-3.1

Provide High-Quality Park and Open Space Facilities to Serve the Needs of a Growing Population.

The City of Merced has benefited from the foresight of early leaders in the City's development with respect to parks and open space. The City's growth has historically incorporated its natural open space resources along Bear Creek and other lesser drainage courses into an overall open space network which has become a major source of civic pride. The City is committed to continuing this high standard of park and open space development in the expansion areas to the north and south of the existing city.

Implementing Actions:

- 3.1.a** Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation open space needs of an expanding population.

Overall, a total of five (5) acres of parkland should be provided per 1,000 residents in the City, of which 1.5 acres should be in community park and 3.5 acres should be in various forms of neighborhood parks, including village greens, school parks and other neighborhood parks. "Greenway" trails should provide bicycle and pedestrian access throughout the City and its growth areas.

- 3.1.b** Consider density bonuses for development proposals which offer extra park land dedications where needed.

Density bonuses on new development should be linked to park land needs for the area and exclude areas which must be set aside as wildlife preserves or left undeveloped for other environmental concerns. Land dedication for planned trails and bikeways are appropriate, but areas used for drainage facilities to serve a development would not be considered for parkland except those areas to be improved for park and open space use by the developer.

3.1.c Continue to implement the City's Parks and Open Space Master Plan and undertake a comprehensive update of the plan after adoption of the General Plan.

The City's Parks and Open Space Master Plan provides specific system design and implementation standards for the development of the City's park system. This plan serves as a basis for requiring development recreation dedications as well as a guide for public facilities expenditures in the parks and recreation category. This plan requires periodic update and will need to be revised to reflect the City's expanded growth area and the parks and open space opportunities and needs resulting from development of the U.C. San Joaquin (Merced) campus and surrounding development in the Lake Yosemite area.

3.1.d Continue to encourage joint use agreements between the City and local school districts to combine park and school facilities when feasible.

This policy supports and complements other joint use facility policies of the Public Facilities chapter of this General Plan. A 5- to 10-acre neighborhood park should be associated with each elementary and junior high school. These schools and school parks should be centrally located, placed at the edge of a Village or neighborhood center and along greenways when possible.

3.1.e Use the City's Park Dedication Ordinance to develop the City's park system.

A strong effort should be made to use the following criteria to locate parks:

- a. No household should have to walk more than approximately one-half to three-quarters of a mile to a park site.
- b. Parks should be located adjacent to schools as much as feasible.
- c. Provide visual, pedestrian and vehicular access to all parks by requiring them to front on public streets on as many sides as possible and not be surrounded by privately owned property. Adequate parking facilities should be provided where needed.
- d. Neighborhood park sites should front on at least one side on a collector street with the remaining sides on local streets. Community or Regional parks may front on arterials.
- e. Park sites should be located so as to incorporate naturally-occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.
- f. Park sites should be located adjacent to bikeway facilities.
- g. Park sites should be located near higher-density residential areas as much as possible.
- h. Parks should have access to nearby subdivision and greenways by means of cul-de-sacs, access easements, etc.

3.1.f Design and develop parks which are compatible with adjacent land uses through the establishment of a park planning process that is responsive to community and neighborhood input.

Existing parks should be evaluated periodically by the Recreation and Parks Commission to ensure that they are meeting the needs of the neighborhoods in which they are located, and programs for expansion/ relocation/reconfiguration should be established when needed.

3.1.g Develop a priority system for acquiring parks and open space based on need, neighborhood input, growth trends, and funding sources.

The specific planning process for South Merced, coupled with the need to update the Parks and Open Space Master Plan, provides the City with the opportunity to prioritize park and open space needs within the fiscally-constrained setting which exists and is likely to exist into the foreseeable future. These planning processes will permit residents of the City to focus on the subject of future park and open space needs in light of new opportunities and developments which have occurred in recent years.

Policy OS-3.2

Maintain and Expand the City's Bikeway and Trail System.

Merced's bikeway and urban trail system has become a model for the region and an important element of the character of Merced. The system's use of the natural open space resources of the community has benefited the public and helped to preserve important open space lands in addition to providing recreation and alternative transportation to residents. Bikeways and urban trails are an important element of the greenway system and provide linkages between other elements of the park system, public transportation, and residential and commercial areas throughout the City. The City is committed to building upon this system and expanding it into the growth areas to the north in addition to developing a new system in the South Merced area.

Implementing Actions:

3.2.a Utilize the urban stream system in the planning and design of bikeways and trails.

It is the City's policy to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and recreation areas. Development of bikeways and trails in these open space areas can enhance the open space value of the urban stream system provided that the trails do not unnecessarily interfere with other open space goals and policies.

3.2.b Make use of creekside areas, utility line easements, abandoned railroad rights-of-way, and canal easements for bikeway purposes.

These areas are generally set aside as open space areas, and their use for bikeway and trail systems would enhance the public value of open space in addition to providing an important amenity to neighborhood residents.

3.2.c Provide links between parks, schools, and open space areas via the bikeway system.

The bikeway system can also be part of a greenway.

3.2.d Provide a link between the City and County bikeway systems by establishing a connector to the Lake Road Bikeway Corridor out to Lake Yosemite.

This area will become an important bikeway link to the new U.C. Campus area and its surrounding development. Plans may be integrated with future development of the eastern beltway system and linear open space plans along drainage courses and irrigation canals.

3.2.e Develop an off-street bikeway and trail system in South Merced.

As part of the specific planning process in South Merced, an inventory of potential off-street routes should be taken and reviewed by neighborhood groups. This system should link existing and planned future park areas and provide links to other open space and school areas as well as being integrated into the rest of the City's bikeway system. The City should explore using existing drainage facility easements to accommodate such a system.

3.2.f Expand the existing bikeway system to all new growth areas as development occurs.

As part of the development review process, bikeway dedications should be required, when appropriate, as a condition of permit approval.

3.2.g Explore the possibility of providing unpaved trails for equestrian and mountain bike use as part of the overall trail system.

These types of trail systems may be appropriate along the eastern fringe of the City where lower density Rural Residential development permits the keeping of horses and other livestock on large lots.

3.2.h Bike path designs should reflect security and other needs of the surrounding community.

When locating bike paths and trails, the design should be sensitive to the need for privacy and security of neighboring residents. If feasible, bikeways should be designed with multiple access points from surrounding neighborhoods so there is sufficient visibility from public roadways to facilitate surveillance by residents and police patrols. Open fencing along bikepaths should be considered, especially adjacent to multi-family developments.

Policy OS-3.3

Maintain the City's Existing High-Quality Open Space Facilities.

Resources for parks and recreation programs and facilities are derived from the same sources which provide essential public services such as public protection. Within the municipal finance structure of the City, it can be expected that other municipal needs may limit the resources which can be dedicated to maintaining and improving existing park and recreation facilities. At present, park and open space expansion is funded largely through exactions and dedications resulting from growth and development. These resources cannot necessarily be applied to the maintenance and upgrading of existing facilities. For these reasons, the City is committed to exploring new alternatives for meeting the park and open space maintenance obligations for existing facilities.

Implementing Actions:

3.3.a Design park facilities so that a high quality of maintenance can occur with minimum effort.

This should include the use of sturdy, low-maintenance plant materials, equipment, and surfaces. Where practical, existing facilities should be upgraded utilizing low maintenance materials and design techniques.

3.3.b Encourage community participation in park maintenance and improvement programs.

Community and neighborhood groups should be encouraged to “adopt-a-park” or playground and become involved in the planning, upgrading and maintenance of the park and its facilities. Monthly or semi-annual neighborhood park special events or programs can be planned involving park users, neighborhood residents and local service organizations in park clean-up and maintenance efforts. These events could also be used as fund raising events for needed park improvements.

3.3.c Explore park concession opportunities as a revenue source for park improvements and maintenance.

In appropriate park locations, the City may consider establishment of concession stands or vending machine locations which could be leased to concessionaires; revenues would be deposited into a park maintenance and improvement fund. Concession operators may include local youth service, neighborhood, or community groups, which could operate the concessions to raise money for charitable purposes.

3.3.d Encourage neighborhood participation in policing and park security efforts.

In cooperation with the Police Department, involve the “Community Action Network” or similar groups in providing park security to discourage vandalism.

Policy OS-3.4

Develop a Diverse and Integrated System of Park Facilities Throughout Merced.

Throughout the City, a system of park and open space facilities should exist which include neighborhood parks, community parks, and greenways. This park system should be developed to serve all age, social, and economic groups in every geographic area of the City.

Implementing Actions:

3.4.a Community parks should be distributed throughout the City.

There should be at least 1.5 acres of community park provided per 1,000 residents. Community parks are usually 15 acres in size or greater. Community parks are major recreation facilities and contain many ball fields, playlots, picnic opportunities and other facilities. They must be located along a greenway and should be at the junction of two greenways when possible. Greenways, streets and landscaping should be used to minimize and buffer residences from the noise and nighttime lighting associated with ball fields.

3.4.b Neighborhood parks and village greens are to be located within Villages.

Neighborhood parks should be distributed so most areas are less than one-mile from any park. Within any square-mile quadrant bounded by arterial roads, a total of 3.5 acres of neighborhood parks should be provided for each 1,000 residents. “Village greens,” which are a special form of “Neighborhood Park,” should be located between Core Commercial areas and Village Core Residential areas, and may be used to meet village park acreage requirements. Parks should be situated away from arterial streets. Public facilities, such as day care, libraries, community centers and post offices, may be developed within or immediately across from village greens when possible.

In the location, design, and maintenance of neighborhood parks, it should be kept in mind that they are fundamental features of livable and enjoyable higher-density neighborhoods. Neighborhood park sites should reinforce retail and residential areas by creating “town squares” suitable for informal gatherings, public events, and recreation. Neighborhood parks should create a formal focus within villages.

3.4.c Greenways should be designed to connect various park sites, schools and other public places with paths exclusively for pedestrians and bicyclists.

Greenways weave through the residential neighborhoods connecting larger public uses (schools, open space, commercial uses, etc.) and provide many points of physical and visual access to the park sites. Some greenways may also act as mini-parks because of play and exercise equipment placed along the paths. Greenways act as valuable greenbelts of open space through a neighborhood. Greenways should be designed in association with bike paths, trails, and pedestrian ways to follow creeks, canals, power line easements, etc.

Greenway design should emphasize access. Access has a major effect on whether a greenway is used. If a greenway is hidden, tucked away in a neighborhood, enclosed by high fences, and/or unmaintained, the public may avoid using them and they may become unsafe.

3.4.d In cooperation with Merced County, evaluate the Lake Yosemite regional park to identify how it might adequately meet the needs of the City of Merced and the new growth areas in the region including the U.C. San Joaquin (Merced) campus.

Regional parks can serve many cities and are sometimes used as resting stops for travelers. Often their focal points are lakes, rivers or other natural resources. Typically, they are provided by counties and the state. Because of their distance from a city, their accessibility is generally limited to those who can drive there. Lake Yosemite Park is a regional park located in the northern expansion area of the City and operated by the County of Merced. Lake Yosemite Park is of special interest to Merced because of its water recreation opportunities and open space qualities in addition to the fact that it is within bicycle commute range for many residents.

Lake Yosemite will likely become more heavily used by City residents as Merced grows and the U.C. Merced campus is built and occupied. As the City expands to the north and public transportation becomes more available in the area, Lake Yosemite Park will become even more accessible to local residents. As a result, additional space and facilities may be required to accommodate future growth. Some of the area around the park contains potential wildlife habitat which limits development options for land owners. The City and County might cooperate in developing a wildlife mitigation banking program for this area which would allow landowners to transfer development rights to other lands upon dedicating habitat and potential park land for public use.

Goal Area OS-4: Open Space for Public Health and Safety

GOAL

- **A Safe Environment For Merced's Citizens**

POLICY

OS-4.1 Preserve open space areas which are necessary to maintaining public health and safety.

Policy OS-4.1

Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety.

Areas within the City which may represent a substantial risk to public health and safety have historically been designated for open space uses which may permit limited public or private use but generally reduce potential exposure of the public to potential health hazards. The City is committed to continuing to protect public health, where practical, by limiting the potential for public exposure through the sound application of open space practices and policies.

Implementing Actions:

- 4.1.a Continue enforcement of the City's Flood Damage Prevention Ordinance (MMC 17.48) to discourage construction in high-risk areas.**

Areas that are known to represent a flood hazard to people and property are subject to land use standards which would limit exposure. These policies could allow limited development with special development standards to accommodate periodic flooding or exclusive use of the area for parks and open space. Agricultural uses are appropriate in some areas which exhibit 100-year flood risk potential.

- 4.1.b Utilize areas along railroad rights-of-way and under high-voltage power transmission lines as open space.**

These areas could be used as greenways and open space areas which would provide scenic buffers from potential health hazards in addition to providing visual (and noise in the case of railroads) buffers to surrounding areas. These areas could also be developed with storm water retention basins, groundwater recharge basin or used as part of the municipal water or other utility systems where the risk of public exposure to health hazards could be minimized.

- 4.1.c Continue enforcement of the City's weed abatement program to ensure undeveloped areas do not become fire hazards.**

Weed abatement programs are an important management concept in open space areas to minimize the risk of fire. In all cases, open space areas are best used with planned plantings of native trees, brush and other plants in a park type setting. When possible, unused plots of land may be appropriately used for community garden uses for neighboring residents. This use would be most appropriate in areas where there is a large number of multi-family dwellings and few public parks or are available.

- 4.1.d Continue to discourage residential uses in Merced Municipal Airport Clear Zones.**

Airport clear-zones and approach and landing corridors represent potential hazard areas to residential development. The areas are subject to noise nuisances as well. These areas are best used for open space purposes such as agriculture, golf courses and other types of uses that do not involve large populations.

[Notes: Other Open Space for Public Health & Safety policies are contained under Goal Area OS-1.5, where the issue of water quality is addressed, and in the Safety Element (Chapter 11.)]

Goal Area OS-5: Conservation of Resources

GOALS

- Conservation of Water Resources
- Preservation and Protection of Soil Resources

POLICIES

- OS-5.1** Promote water conservation throughout the planning area.
- OS-5.2** Protect soil resources from the erosive forces of wind and water.

Policy OS-5.1

Promote Water Conservation Throughout the Planning Area.

Water is a finite resource in the Central San Joaquin Valley and is an essential ingredient to the region's continued agricultural production capacity as well as a vital element in the continued growth of the Merced Metropolitan Area. The City, in conjunction with the Merced Irrigation District, has studied the long-term needs for water and concluded that water conservation must be part of any successful long term water development strategy. For this reason, the City is committed to continue its water conservation efforts and expand on those efforts where necessary.

Implementing Actions:

5.1.a Continue implementation and enforcement of the City's Water Shortage Regulations (MMC 15.42.010-100).

The City's emergency water shortage regulations are appropriately implemented during periodic drought years and may be necessary at other times to ensure an adequate water supply into the future.

5.1.b Continue implementation of the Water Efficient Landscaping and Irrigation Ordinance (MMC 17.60.010-070).

Promote the conservation of water and the preservation of water quality by requiring drought tolerant plant material in landscaping and the retention of existing natural vegetation on new development projects.

5.1.c Provide leadership in conserving urban water resources.

City buildings and facilities should be equipped with water saving devices whenever practical. Municipal parks and playgrounds should employ water conservation techniques such as mulching, drip irrigation and other appropriate technologies.

5.1.d Encourage public water conservation efforts.

Through established public information systems in the community, the City should promote water conservation by providing information on water savings from low-flow fixtures and the value of insulating hot water lines in water recirculating systems. Other conservation techniques can be addressed such as the use of non-potable water for landscape irrigation purposes (water re-use, MID water, etc.).

[Notes: Water conservation policies are supported by other policies in this General Plan to protect regional water resources (Public Facilities Goal Area P-3) and water quality (Open Space Policy 1.5).]

Policy OS-5.2

Protect Soil Resources From the Erosive Forces of Wind and Water.

Merced is situated on some of the finest soil resources found in the Central San Joaquin Valley. Some of these soils are of a silty-loam texture and highly vulnerable to erosion from wind and water. Wind erosion contributes to the region's PM10 air quality problems, as discussed in the Sustainable Development Chapter(8) of this General Plan, and water erosion can contribute to sedimentation of the region's surface water drainage system. In all cases, the loss of soil through erosive forces of nature degrades the productive capacity of the land and contributes to regional environmental problems.

Implementing Actions:

5.2.a Reduce soil erosion potential of new development.

During the development review process for projects which involve grading and excavation, apply permit conditions which reduce or prevent erosion, siltation and contamination of storm water during construction. Techniques such as mulching of exposed surfaces, restricting major excavation projects during peak storm periods, or watering exposed surfaces during summer dry periods, can be successfully employed to reduce construction-caused erosion.

5.2.b Encourage the planting of trees as windbreaks in agricultural areas of the community.

Historically, trees have been successfully used as wind-breaks in the region. Stands of wind-break trees can be established as part of an open space corridor, along roadways and bike paths, or at appropriate locations along the urban perimeter adjacent to agricultural land.

5.2.c Maintain adequate vegetation along the banks of urban streams and storm water drainage channels.

The erosive force of storm water can cause damage to stream channel banks that have be cleared of their vegetative cover. Where it is necessary to remove natural vegetation along stream channels to improve storm water flows, "rip-rap" (rocks, concrete, etc.) should be applied to reduce erosion and sedimentation hazards.

(Notes: These policies are proposed in support of Air Quality PM₁₀ policies contained in the Sustainable Development Chapter of this Plan--Chapter 8.)

7.6 ISSUES FOR FUTURE STUDY

There are several major issues which will require future study and evaluation. The issue areas that have been identified below may be expanded from time to time as new information becomes available or new open space resource problems are identified.

7.6.1 Lake Yosemite Regional Park

The Lake Yosemite Regional Park will be increasingly affected by local growth and development, which could severely impact its available land and facility area.

Additionally, the region surrounding the Lake contains several isolated but important biological resource sites which could be adversely impacted by certain types of development.

With the development of U.C. San Joaquin (Merced) campus northeast of the lake, urban expansion in this area will be accelerated and access to the lake will be facilitated. Future planning efforts need to address the expansion needs of this regional park facility.

This planning effort will need to involve U.C. campus planners and the County of Merced. Planning efforts will also need to address other open space resource issues in this area, such as protected wildlife habitat, water quality, etc.

7.6.2 Greenbelts & Urban Limit Lines

Suburban development on the agricultural lands surrounding the City are of critical concern. This type of development not only depletes the

limited supply of “prime” agricultural soils in the area, but also causes impacts on the City’s infrastructure.

With the selection of the Yosemite Lake area as the site of the new U.C. San Joaquin (Merced) campus, growth pressures can be expected to increase in the prime agricultural areas east of Kibby and along the Highway 140 corridor.

This development primarily occurs on lands that are outside the land use jurisdiction of the City of Merced. Policies and programs addressing urban growth are contained in the Urban Expansion Chapter of this General Plan. Long term resolution of this issue, however, may reside in the development of an Open Space Greenbelt policy on the City’s urban fringe. This policy would necessarily be a cooperative program between the City of Merced and the County of Merced.

7.6.3 Future Park Sites

New park sites in the northern portion of the City’s expansion areas have been relatively easy to obtain. This is primarily due to the area’s large tracts of developable ground, the extensive creek network in the area, and growth trends of the City.

In the southern portions of the City, however, new growth and development opportunities are limited. Most of the areas are presently developed, and the acquisition of appropriate park sites would most likely involve improved property, which can be prohibitively expensive.

Future updates of the City's Parks and Open Space Master Plan must address this problem. The specific planning process, identified in the Land Use Chapter, contains policies which may also address this issue.

7.6.4 Park & Open Space Resources

Acquisition, development, maintenance and operation resources for the City's park and open space system must compete with many other vital City services. Historically, the system's expansion and development has been driven largely by new development.

Growth and development has resulted in a well developed park and open space system in the newer sections of the community; however, in the older portions of the City, resources have been scarce.

Long-term maintenance and operation resources are extremely vulnerable to the limited City budget resources. A long-term strategy needs to be developed to assure continued development and adequate maintenance of the system in future years.

Potential future park sites have been designated on the Land Use Diagram. The sites are given a "general" designation to identify areas of potential future needs. Specific site locations, however, will require more specific planning and may be included in the City's Parks and Recreation Master Plan.

7.6.5 Highway 59 Landfill Site

The County's main landfill facility is located along Highway 59 in an area contemplated for the City's urban expansion after the Year 2015. Present

plans and policies are adequate to assure the long-term viability of this site; however, continued monitoring of growth and development trends in the region will be necessary.

Planning efforts for the years 2015 and beyond must contemplate the maintenance of adequate open space buffers around this important public facility.

7.6.6 Ground Water Recharge

It has been determined that ground water is the most practical long-term source of water for meeting the future water needs of the City of Merced. Groundwater recharge is, therefore, critical to supporting the City's future growth. Agricultural water demands are expected to continue to utilize surface water supplies.

In order to maintain adequate municipal water needs into the future, a program is to be implemented that requires development of between 1,200 and 2,600 acres of ground water recharge basins within the vicinity of the Merced urban area. Some of these recharge basins may be developed in conjunction with the City's storm water retention pond system and included in the City's open space resources. Additional acres of recharge basins are expected to be required, however, and these basins will most likely need to be developed outside the City's SUDP.

In the design and development of this system of recharge basins, care must be taken to minimize the loss of agricultural land in the region as well as minimizing the impact of storm water contaminants on ground water resources. Planning

should contemplate integration of this system into the regional open space network.

7.7 IMPLEMENTATION

Numerous Open Space, Conservation, and Recreation implementation measures have been detailed in the Goals, Policies and Actions section of this Chapter (Section 7.5). These implementing actions make up the “Action Program” required by Government Code Section 65564. Implementation is also achieved through the Open Space designations on the Land Use Diagram.

The acquisition of additional park land and open space will continue as development occurs through use of the City’s Park Dedication Ordinance, the required dedication of creekside open space, the payment of Park In-Lieu fees, and the Public Facilities Financing Plan.

By means of establishing development standards for lands designated as “Open Space,” the objectives of this chapter can be obtained. Through policies and standards for identifying new open space areas through the development review process, provisions have been made for the preservation of open space resource lands which may be needed at some future point in time.

7.8 CONCLUSION

The open space, conservation and recreation resources of Merced have played an important part in the quality of life for which the City is known. The City has chartered a course into the 21st century for the preservation and enhancement of those resources.

It is expected that, as a result of past and present efforts, future decision makers contemplating the City’s future beyond the year 2015 will continue to have a broad array of open space resources with which to enrich the lives of the City’s residents.



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Chapter 8

Sustainable Development

8.1 INTRODUCTION AND INTENT

This chapter of the *Merced Vision 2015 General Plan* addresses the environmental, natural and cultural resources of the City and proposes policies to minimize adverse effects resulting from growth and development.

The intent of this Chapter is two-fold. The primary purpose is to promote *Sustainable Growth* in the City of Merced. In the context of the Merced Vision 2015 Plan, "*Sustainable*" means meeting the needs of the present without compromising the ability of future generations to meet their needs.

In practical terms, sustainable growth in the City of Merced means accommodating growth and development without unnecessarily:

- Consuming our valuable and limited agricultural soils,
- Contaminating or over-taxing our water supplies,
- Destroying or diminishing the value of important wildlife habitat,
- Reducing our air quality to a point where our quality of life is threatened,
- Consuming limited non-renewable energy resources, or

- Destroying our cultural and historic resources.

As more people move to the City of Merced, the more planning and development policy needs to assure the sustainable use of our environment.

A second purpose of this Chapter is closely related to concerns over *Sustainable Growth*. This Chapter is intended to minimize duplication and overlap of the environmental regulatory system in the City.

Numerous federal, state and regional agencies have recognized the need to protect soil, water, wildlife, air, energy and cultural resources. These agencies have adopted rules, regulations and standards which are routinely applied through the City's development review processes.

This complex multi-agency regulatory system can create unnecessary time delays in processing development permits. Sometimes agencies propose regulations which are in conflict with other agency regulations. As an example, State wildlife conservation efforts often conflict with local flood

control agency efforts to remove brush from clogged streams and water-courses.

The lack of adequate locally derived environmental and resource protection standards pose problems for San Joaquin Valley cities like Merced. When local standards are not in place, federal and state agencies attempt to fill the void with standards that are general in nature and development project driven. These standards frequently do not fit the circumstances of an individual project, and often vary between similar projects.

As a result, local jurisdictions face the prospect of having to impose project conditions which lack consistency and may have little long-term beneficial impact. This typically results in inconsistent standards being proposed at the federal, state or regional level. This lack of consistency creates confusion for both community investors and the public at-large.

In a similar manner, lack of local environmental policy, based on good scientific information, can create confusion during public review processes. Lack of clear local environmental policy can result in public debate being focused on technical information rather than broad policy issues and implications of development. This also leads to situations where scientific data is misinterpreted.

As a net result, lack of clear local environmental policy which is based on good scientific data can have a negative overall effect on a community. The credibility of both government permit agencies and legitimate environmental organizations can be diminished through

environmentally driven permit processes which appear arbitrary and ineffective.

This Chapter addresses important environmental and resource issues not addressed in other chapters of this Plan. A consistent and uniform environmental policy approach is proposed. Additionally, broader environmental questions are framed in such a manner so as to lead logical and consistent future environmental standards. As a result, the City's goal of promoting *sustainable development* and reducing environmental regulatory conflict can be achieved.

8.2 SETTING

The following section contains background information on the soil, water, wildlife, air, energy, and historic resources of the region and the City.



8.2.1 Soil Resources

The City of Merced is situated within an area containing very important soils capable of producing a wide range of agricultural products. Throughout the region, urban expansion has resulted in these valuable soils being converted to non-agricultural uses.

The long-term economic health and vitality of Merced is linked to maintaining the agricultural productivity of the region. Many factors influence

agricultural production capability. Soil type is a basic measure of agricultural value. While other factors influence agricultural production capacity (water availability, support infrastructure, markets, nuisance and adjacent uses, etc.), soil capability is a primary limiting factor with respect to crop production. It is also important that these unique “prime” soils be in large enough concentrations that they can support an economically viable farming operation.

It should be noted that some types of agricultural productivity are not as dependent on quality soils as others. As an example, dairy and poultry farms do not need to be situated on quality soils. Some crops, such as rice, can be very productive on soils which are of lesser quality than needed for other types of crops.

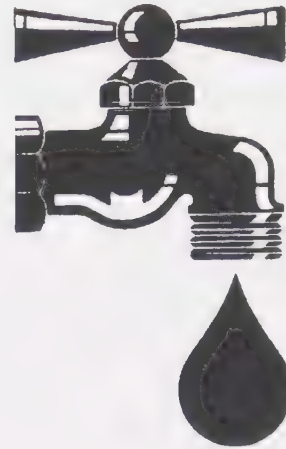
The Merced Area California Soil Survey was prepared in the 1950’s and published in 1962. It contains the latest information available for the Merced Planning Area with respect to soil capabilities. This Survey has been used in this Inventory to describe the soil capabilities within the planning area.

Merced Planning Area soils are discussed and described in Section 8.5.1 of this Chapter.

8.2.2 Water Resources

Most water found in the San Joaquin Valley originates on the western slope of the Sierra. Valley rainfall in the Merced area averages nearly 11 inches per year while in the higher elevations of the Sierra, rainfall averages 55 inches at the 5,000 foot elevation and has been known

to exceed 80 inches per year during extremely wet years at higher elevations.



Surface Water System:

The most significant source of water in the Merced region is the Merced River which originates in Yosemite National Park. Ultimately the Merced joins the San Joaquin River northwest of the City of Merced.

The Merced Irrigation District (MID) relies on the Merced River for much of its water supply. The District stores Merced River water in Lake McClure, located in the northwestern portion of Mariposa County. The capacity of the Lake, approximately 1-million acre feet of water; is roughly equivalent to the average discharge of the river which is 955,000 acre-feet per year.

Note: An acre foot of water contains 325,829 gallons of water. A typical 3-bedroom detached home on metered water is estimated to consume approximately 164,000 gallons of water per year or nearly one-half an acre foot of water. Other factors affect urban water consumption, however, such as landscape irrigation, commercial and industrial uses, recreation (swimming pools) and water to meet other urban needs.

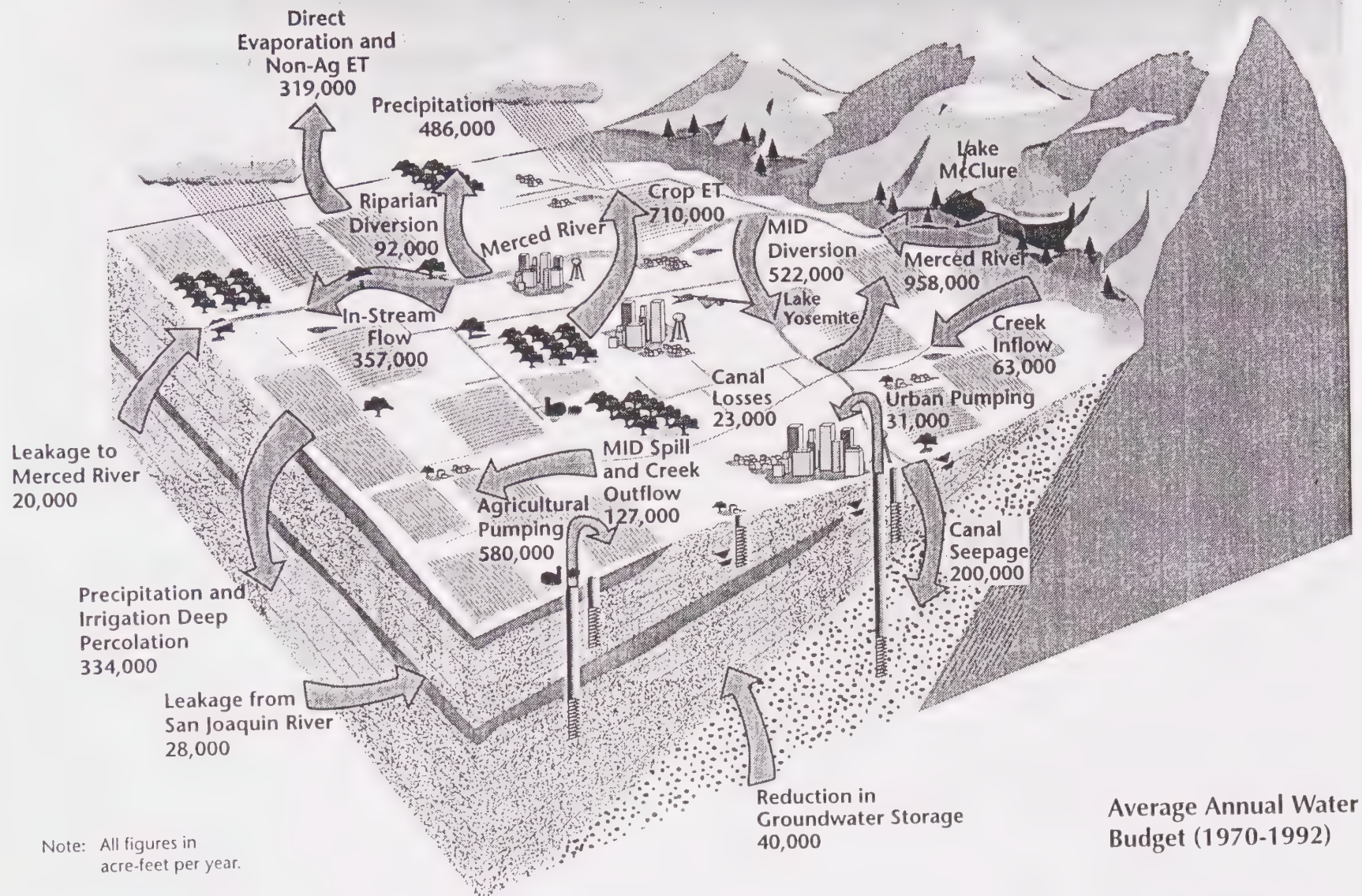
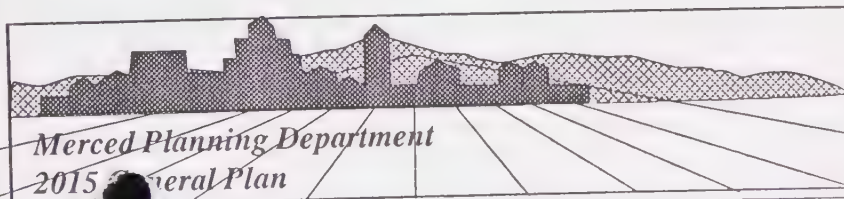


Figure 8.1

Regional Hydrological System



Not all of the water flowing through the Merced River is available for diversion for agriculture and urban uses, however. During the period between 1970 and 1992, MID and other downstream users of Merced River water withdrew an average of 616,000 acre-feet of water per year or nearly two-thirds of the average annual flow of the river. Unfortunately water flows vary greatly from year to year. During drought periods, flows as low as 276,000 acre feet have been recorded on the river. Prudent water planning must take into account the wide variation in annual water flows on the Merced River.

While the Merced River is the most significant source of surface water in the region, several natural creeks also dissect the area in and around the City of Merced. The most prominent are Black Rascal, Burns, Owens, Mariposa and Bear Creeks. These creeks originate in the foothills east of Merced and flow seasonally from east to west.

During an average year, peak runoff from Black Rascal, Mariposa, Bear, Owens, and Burns Creeks occurs during February and totals about 16,000 acre-feet. Total inflow from these creeks is estimated to be about 63,000 acre-feet during an average year.

Groundwater:

The groundwater system of the Merced region is complex due to the manner by which water is added and withdrawn. Groundwater recharge occurs primarily from agricultural irrigation and rainfall; at the same time, agricultural and municipal pumping account for most of the groundwater withdrawals.

The groundwater basin beneath Merced consists of a wedge of unconsolidated sedimentary deposits of sand, gravel, silt and clay. This formation thickens from the edge of the Sierra foothills to its greatest depth, estimated to be more than 12,000 feet, near the San Joaquin River. Only the first 1,000 feet of these sedimentary deposits provides a usable aquifer because deeper areas contain salt water.

These sedimentary deposits represent a huge underground reservoir of fresh water, about 30 million acre-feet.

Not all of this water can be withdrawn, however, because it would cause excessive declines in groundwater levels resulting in poor water intruding into currently clean aquifers. Overdrawing the aquifer would also result in subsidence of the land surface of the area.

The sedimentary deposits which contain the area's groundwater has been grouped into four distinct aquifers. The deepest aquifer is the Mehrten Formation which is the oldest and thickest of the sedimentary formations. It is the most important aquifer in the Merced area and is found at a depth ranging from 300 to 700 feet or more below ground level.

The Mehrten Formation is overlain by Continental alluvial deposits. This formation forms an aquifer which begins approximately 150 feet below the surface.

Above the Continental deposits lies the Older Alluvium, the most extensively developed aquifer in the area. Overlaying the Older Alluvium are the

flood-basin deposits consisting of fine sand, silt, and clay.

Groundwater levels in the Merced region range from 1 to 15 feet below the surface. Groundwater flows tend to be from the northeast to southwest although groundwater pumpage creates cones of depression complicating the natural flow patterns.

The general trend of groundwater movement is downward from the shallowest groundwater to the deeper aquifers. Consequently, degradation of shallow groundwater can potentially affect deeper water supply wells. Where this downward movement is significant and dilution and chemical/biological processes are insufficient to adequately reduce concentrations of groundwater contamination, wells located in the deeper Mehrten Formation can become contaminated

Groundwater Quality

Groundwater in the region has been characterized as belonging to the calcium-magnesium-bicarbonate type. Since 1983, Merced County has been collecting samples from each new domestic well. These data have identified broad areas of groundwater quality problems in the region.

Water Contaminates:	
Dibromochloropropane	DBCP
Tetrachloroethylene	PCE
Trichloroethylene	TCE

Regionally, nitrate and DBCP contamination have been found in the Livingston/Atwater area north of Highway 140 and west of Castle Air Force Base. The Castle site also has a

large TCE plume and a number of other solvents have been found in the area's groundwater. At the Kendall plant in southeast Merced, high levels of TCE and other chlorinated solvents have been found in the groundwater.

Water samples collected from 18 Merced City wells in 1987 were found to contain nitrate-nitrogen levels ranging from about 1 to 5 mg/L. The maximum contaminant level (MCL) for nitrate-nitrogen is 10 mg/L.

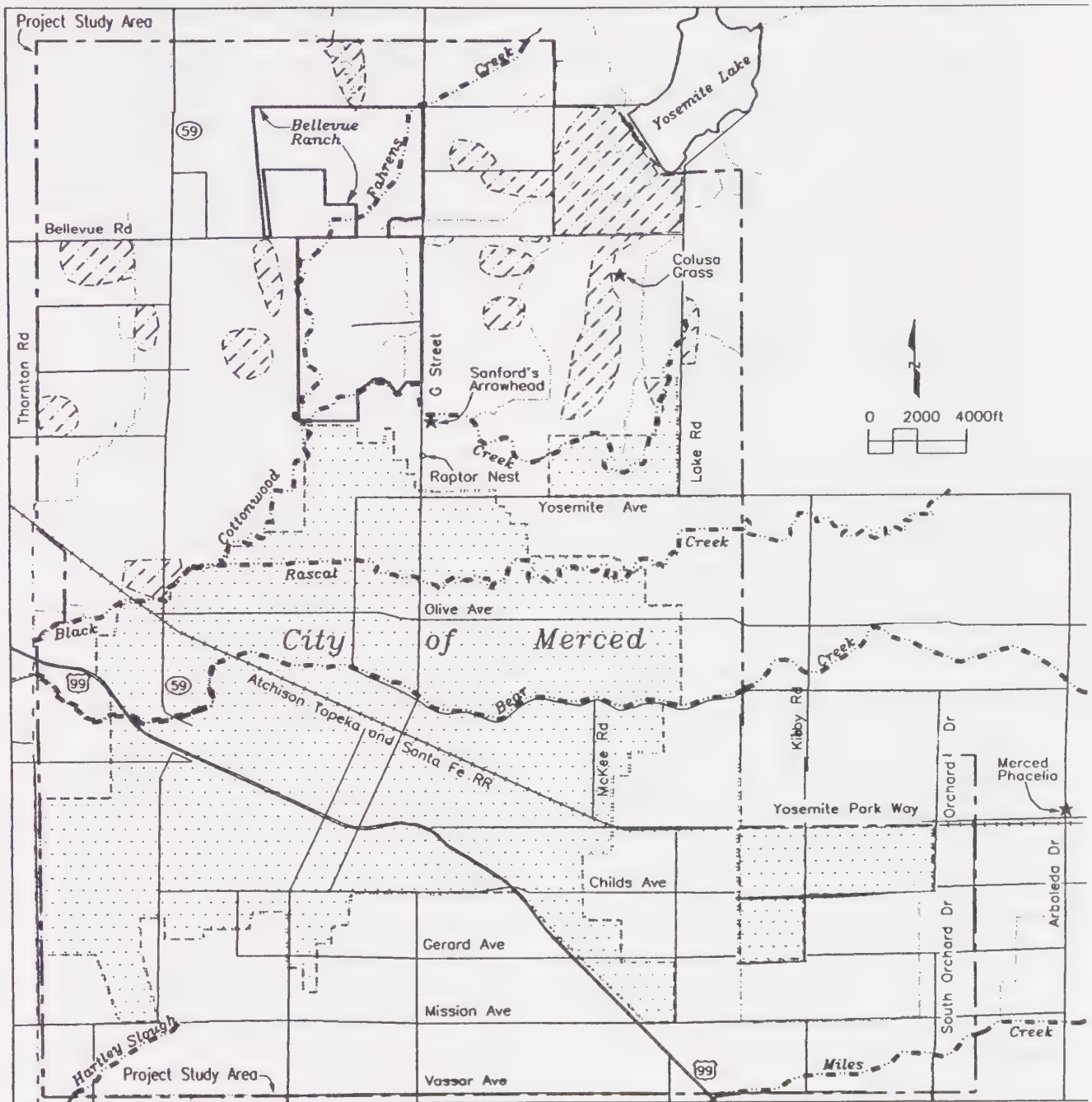
Several of the City's wells have been affected by PCE contamination linked to dry cleaning operations. Wells 3A, 3B, and 5 were closed because of PCE contamination in 1986 and replaced with deeper wells. Smaller traces of PCE contamination has also been detected in other wells.

Swainson's Hawk



8.2.3 Wildlife Resources

The vast majority of the undeveloped area within the Merced SUDP area is cultivated with irrigated pasture, row crops, rice or orchards. As a result, little undisturbed natural habitat remains in this area. The major plant community and wildlife habitat types that occur in the SUDP include riparian corridors, non-native grassland, and irrigated pasture. Additionally, vernal pools and seasonal wetland habitats occur within the non-native grassland habitats.



= Wetlands (Seasonal Wetlands, Ponds, Vernal Pools)

= Creeks / Sloughs

= Canals / Drains

= Plan Boundary



= Existing Urban Limits



= Bellevue Ranch (Not in Plan Area)



= CNDDB / RareFind Record

Sycamore Environmental Consultants, Inc.

Basemap:
Atwater, Merced, Winton, Yosemite Lake
USGS Quads and NWI Maps.

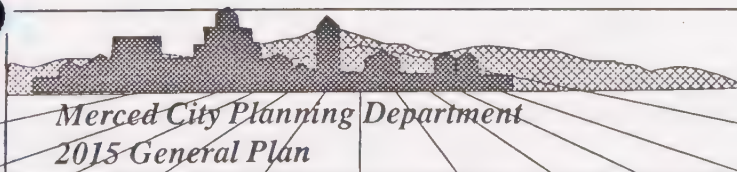


Figure 8.2

Planning Area Habitat Classifications

Riparian Corridors

Riparian corridors include creeks and sloughs which provide the natural drainage of the area. Major riparian corridors in the SUDP include Fahrens Creek, Cottonwood Creek, Black Rascal Creek, Bear Creek, Miles Creek and the Hartley Slough. As a result of urbanization and agricultural management practices, most of the native habitat along the area's riparian corridors no longer exist.

Dominant riparian tree species in these corridors include Narrow-leaved willow (*Salix exigua*), Fremont cottonwood (*Populus fremontii*), Northern California black walnut (*Juglans californica* var. *hindsii*) and willow (*Salix* sp.).

Non-Native Grassland

Non-native annual grassland is dominated by grasses that have been introduced by modern man, mostly to increase agricultural productivity. Annual and perennial herbaceous species and some native grasses may occur. Common introduced grass species found in this community include Slender wild oats (*Avena barbata*), Bermuda grass (*Cynodon dactylon*), Rip-gut brome (*Bromus diandrus*), and Mediterranean barley (*Hordeum murinum* ssp. *leporinum*). Native grasses that could occur in these areas include Annual Hairgrass (*Deschampsia danthonioides*), and Oldfield three-awn (*Aristida olingantha*). Common annual and perennial, non-native herbaceous species that occur in the study area include Torksbill filaree (*Erodium cicutarium*), Bur clover (*Medicago polymorpha*), and Smooth cat's ear (*Hypochaeris glabrata*).

Irrigated Pasture

Irrigated pasture in the SUDP growth area is composed principally of introduced annual grasses interspersed with a mixture of introduced and native herbaceous species. These same species that occur in irrigated pasture are also found in the non-native grassland habitat.

Seasonal Wetlands & Vernal Pools

Seasonal wetlands are wetlands that are temporarily saturated or inundated during winter and spring. Seasonal wetlands occur in depressions in the landscape that briefly retain water, or become saturated due to the presence of subsurface water. Seasonal wetland vegetation in the City's SUDP is similar to vernal pools, and may include sedges (*Carex* sp.), spike-rush (*Eleocharis* spp.), and rushes (*Juncus* spp.).

Vernal pools are types of seasonal wetlands found in grasslands and other habitats, underlain with a clay hardpan or other impermeable layer, that fill with water in the winter and slowly dry in the spring. Plant species found in vernal pools in the region include Popcorn flower (*Plagiobothrys* sp.), Goldfields (*Lasthenia glaberrima*), Downingia (*Downingia pulchella*), and Button-celery (*Eryngium vaseyi*).

The undeveloped portions of the SUDP provides habitat for many species of resident and transient terrestrial wildlife including mammals, birds, reptiles, and amphibians. Many of these species use the riparian habitats and eucalyptus woodlots for shelter, nest, or roost sites. Nearby agricultural fields and orchards are also used by wildlife as foraging habitat.

Large animal species found in the area include:

- Coyote (*Canis latrans*)
- Black-tailed jack rabbit (*Lepus californicus*)
- California ground squirrel (*Spermophilus beldingi*)
- Virginia opossum (*Didelphis virginiana*)
- Gray fox (*Urocyon cinereoargenteus*)
- Brush mouse (*Peromyscus boylii*)
- American beaver (*Castor canadensis*)
- Muskrat (*Ondatra zibethicus*)
- California meadow vole (*Microtus californicus*)
- Audubon's cottontail (*Sylvilagus audubonii*)
- Raccoon (*Procyon lotor*)
- Striped skunk (*Mephitis mephitis*)
- Spotted skunk (*Spilogale putorius*)

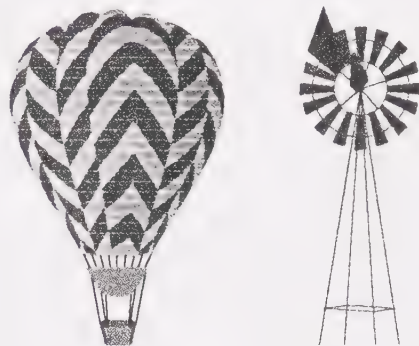
The numbers and species of birds within the area vary seasonally and from year to year, with some species being resident and others appearing only during migrations. Many species of birds forage and nest in riparian habitats. Grassland and irrigated pasture are used as foraging and nesting habitat for many species as well.

Raptors typically nest in large, tall trees. Cottonwoods and willows, as well as introduced species such as eucalyptus, provide potential nest trees. Grassland and irrigated pasture provide foraging habitat for raptors.

Reptiles and amphibians also occur in the area and include the terrestrial garter snake (*Thamnophis elegans*), Bullfrog (*Rana catesbeiana*), and Pacific chorus frog (*Pseudacris regilla*).

There are several species of plant and animal life that may be found in the City's SUDP. These species are listed in

Chapter 7 (Open Space). This Chapter also contains goals, policies and actions for the preservation of important plant and animal habitat found in the area.



8.2.4 Air Resources

Air pollutant emissions are fairly constant throughout the year, yet the concentrations of pollutants in the air varies from day to day and even hour to hour. This variability is due to complex interactions of weather, climate, and topography. These factors affect the ability of the atmosphere to disperse pollutants. Conditions that move and mix the atmosphere help disperse pollutants. Conditions that cause the atmosphere to stagnate allow pollutants to concentrate. The following describes the topography, weather, and climate of the San Joaquin Valley and discusses how these factors contribute to our air quality problems.

Topography

The San Joaquin Valley Air Basin occupies the southern half of the Great Central Valley and is the most distinctly bounded, large topographic basin in the state. The San Joaquin Valley is approximately 250 miles long and averages 35

miles in width. The valley is basically flat with a slight downward gradient to the northwest. The Valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco Bay.

Meteorology and Climate

The mountain ranges have a strong influence on the climate of the region. The mountain ranges to the west and south induce winter storms from the Pacific to release much of their precipitation on the western slopes and to produce a partial rain shadow over the San Joaquin Valley. However, the major effect of the mountain ranges is to block free circulation of air to the east. This results in stable air being trapped by the bowl-like topography for extended periods during the colder half of the year.

Temperature and Humidity

Summer high temperatures often exceed 100 degrees F, averaging in the low 90's in the northern valley and high 90's in the south. Summer low temperatures average in the high 50's in the north and the upper 60's in the south.

The cloudless, hot days of summer and fall are favorable to ozone formation. Most breaches of the ozone standard occur during summer and fall. However, under extremely hot conditions, convective heating of the earth's surface lifts and mixes the pollutants so that concentrations drop to acceptable levels. This convective mixing, when combined with the afternoon winds, tends to cause pollutants to peak around noon and to decrease later in the day.

Precipitation

Precipitation in the San Joaquin Valley is strongly influenced by the position of the semi-permanent subtropical high pressure belt located off the Pacific coast (Pacific High). Precipitation on the valley floor and in the Sierra Nevada decreases from north to south. The winds and unstable air conditions experienced during the passage of storms result in periods of low pollutant concentrations and excellent visibility.

Between winter storms, high pressure and light winds allow cold moist air to pool on the valley floor. This creates strong low level temperature inversions and very stable air conditions. This situation leads to the Valley's famous Tule Fog and to conditions favorable to high concentrations of CO (carbon monoxide) and particulates. Ozone levels are low during these periods because of the lack of sunlight to drive the photochemical reaction. Maximum CO concentrations tend to occur on clear, cold nights when a strong surface inversion is present and large numbers of fireplaces are in use. A secondary peak in CO (Carbon Monoxide) concentrations occurs during morning commute hours when a large number of motorists are on the road and the surface inversion has not yet broken.

Fog

As was mentioned above, when conditions are favorable for fog to form, they are also favorable for high carbon monoxide and particulate concentrations. However, the water droplets in fog can act as a sink for CO and NO_x, (Oxides of Nitrogen) lowering pollutant concentrations. At the same time, fog could help in the formation of secondary

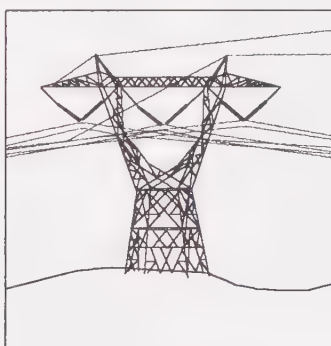
particulates such as ammonium sulfate. These secondary particulates are the cause of most winter season violations of the PM₁₀ standards.

Winds

The topography of the San Joaquin Valley has a dominating effect on wind flow patterns. Winds tend to blow somewhat parallel to the valley and mountain range orientation. Seasonal weather patterns and the region's topography produce the high incidence of relatively strong northwesterly winds in the spring and early summer.

Summer wind conditions promote the transport of ozone and ozone precursors from the Bay Area through the Carquinez Strait, and through the low mountain passes such as Altamont Pass and Pacheco Pass. Wind brings the transported pollutants into the Valley and disperses locally generated pollutants.

Appendix 8.5.2 contains a description of the various air pollutants of greatest importance in the San Joaquin Valley.



8.2.5 Energy Resources

Consumption of energy resources is closely related to the problem of air quality. Steep oil prices of the 1970's had the one positive effect; it reduced the nation's international energy bill by reducing the amount of energy we

consumed. As the price of energy increased, consumption declined. Cars now get better gas mileage, homes are built to reduce heating and cooling costs, and appliances are designed to be more energy efficient. It is estimated that improvements in energy conservation have reduced our nation's energy bill by \$150 billion a year.

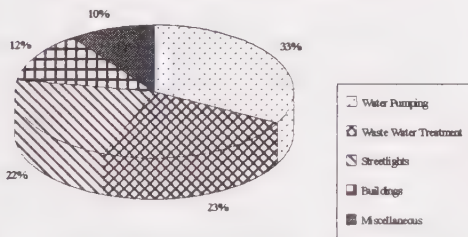
Reduced energy consumption has had other benefits to our society. For each kilowatt-hour saved and for each therm conserved, the Earth has been spared additional smog, acid rain, ozone depletion, and global warming. Air quality problems are largely a result of burning fossil fuels (oil, coal, and natural gas) to power our cars, run our factories, and heat or cool our homes and offices.

On a global scale, the United States consumes 25% of the world's energy while containing only 5% of the world's population. Despite the progress since the 1970's, the United States still uses twice as much energy per unit of output as either Japan or West Germany. If we were to reach Japan's levels of energy efficiency, we could save an additional \$220 billion each year; nearly \$1,000 for every person in America.

World population is over 50 percent urban; in the U. S. about 85 percent of our population live in cities. As our urban centers grow, they are faced with increasing air and water pollution combined with dangerous levels of hazardous and solid waste accumulation. The problems of our cities also have global ramifications with depletion of the ozone layer, acid rain, deforestation, species extinction, toxic contamination and global warming.

Many of these related environmental problems result from our dependence on non-renewable energy resources, such as oil and coal. Cities must reduce this energy dependency to remain as viable places to live and work into the new millennium.

Figure 8.3
Typical California City Energy Use



Source: "Energy Aware Planning Guide," 1993

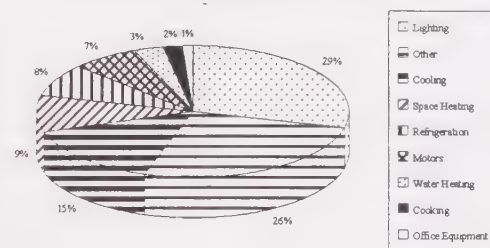
Energy Use

In 1977, largely as a result of statewide drought conditions and high natural gas prices, 81 percent of California's electricity was generated by burning oil. By the early 90's, oil burning generators represented less than six percent of the state's electrical power generating capacity. At the same time, renewable resources such as biomass, geothermal, wind and solar furnished over 12 percent of the states generating capacity.

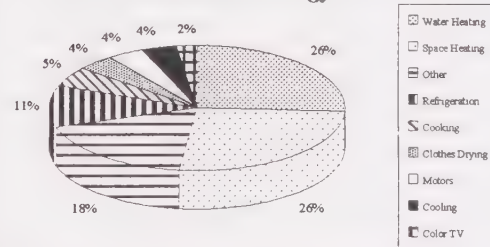
Another critical aspect of future energy use is the expected growth in the consumption of electrical energy. Through the year 2010, California's overall energy demand for electricity is expected to grow at an average rate of two percent per year. However, peak demand for electricity is forecast to grow at an average rate of 2.7 percent per year. This latter rate is a 50 percent increase over current peak demand, and will require an additional 23,000 megawatts of electrical generating capacity to be developed.

A significant portion of this increased peak demand is attributable to expected population growth in the inland areas of the state such as the San Joaquin Valley. Compared to the state's temperate coastal zone, the climate of California's Central Valley and desert is more extreme. As residential and commercial development expands throughout the Central Valley, more peak generating capacity will be needed to meet greater demands for summer air conditioning.

Figure 8.4
1987 Commercial Energy Use in CA



1987 Residential Energy Use in CA



Source: "Energy Aware Planning Guide," 1993

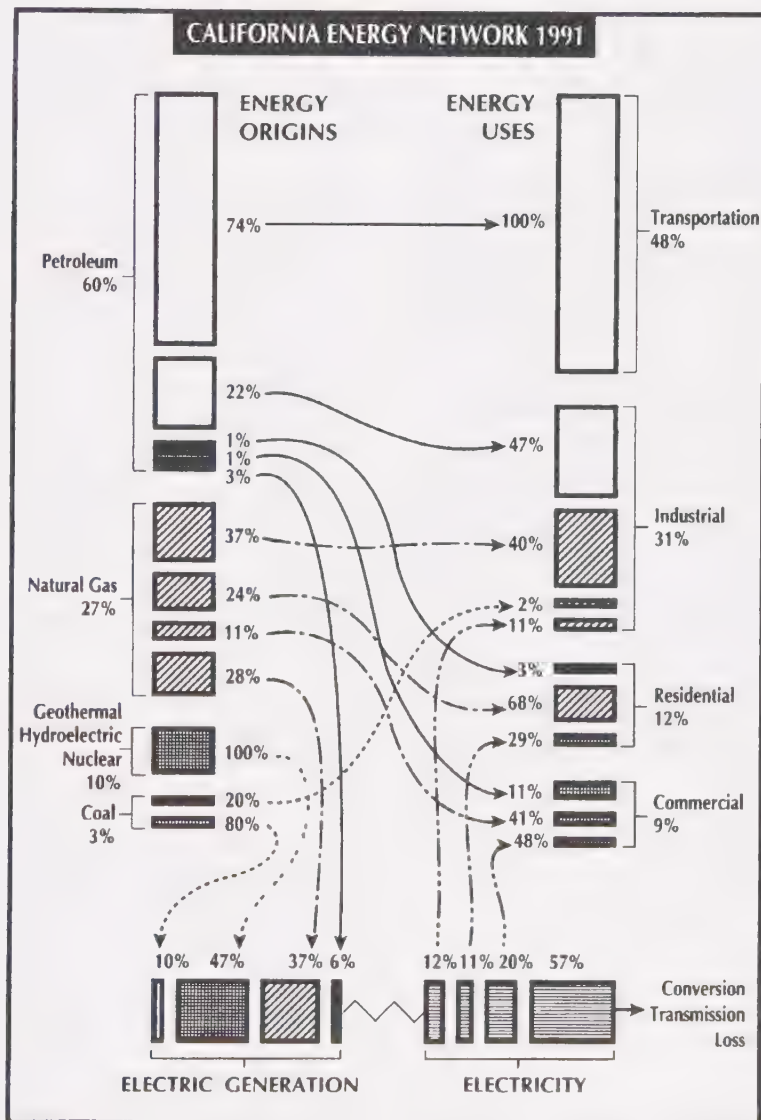
While the generation of electricity has reduced its reliance on fossil fuels, our use of fossil fuels for transportation has grown. Dependence of fossil fuels for energy has multiple consequences. The impacts of burning fossil fuels on the environment is well documented. Over the long-term, dependence on non-renewable fuel resources cannot be sustained. Approximately 48 percent of all energy used in California in 1991 was used to provide transportation to the

state's population. All of this energy relied on burning petroleum; 74 percent of all petroleum use in the state went towards providing transportation.

Figure 8.5 depicts the system of energy origin and use in the state. Clearly, transportation is the single-most environmentally-sound and cost effective area within which we can reduce energy consumption of non-renewable fossil fuels. With rapid economic growth and

low gasoline prices, the California State Energy Commission predicts that transportation fuel consumption could increase to as much as 97 percent of total petroleum sources by the year 2009. Caltrans predicts that if current development trends and modes of travel continue, the number of miles traveled on California's highways will increase 51 percent by 2005.

Figure 8.5



Energy Facts ☒

- ☒ The average cost of energy efficiency investments is 2-4 cents per kilowatt hour saved versus 8-10 cents per kilowatt hour for new power generating capacity.
- ☒ California spends an amount equal to about seven percent (7%) of the state's Gross State Product for energy. In 1990, energy consumption cost \$590 billion.
- ☒ Energy costs in commercial businesses can account for up to 10 percent of total operating costs.
- ☒ In 1990, both Japan and Germany consumed half as much energy to produce the same amount of goods and services as the United States.
- ☒ Lighting typically consumes about half of all electricity used in commercial buildings and represents one of the greatest potential sources of new energy savings.
- ☒ As a result of California's energy conservation construction standards, modern residential and commercial buildings use about 50 percent less energy than buildings constructed prior to 1978.
- ☒ Consumption of 1,000 kwh of electricity in California produces about 850 pounds of CO₂. That amount of electricity could be saved in one year by replacing four 75 watt incandescent light bulbs with compact fluorescent lamps.
- ☒ It is estimated that telecommuting employees can reduce peak-hour commute trips by 65-75 percent and save 37,000 gallons of fuel over 18 months. The Telecommuting Research Institute has projected that a national telecommuting program could eliminate about 150 billion vehicle-miles-traveled and save more than 4 billion gallons of gasoline over a 10-year span.
- ☒ Pollution from cars and trucks represents 43 percent of hydrocarbon emissions, 57 percent of nitrogen oxide emissions, and 82 percent of carbon monoxide emission in California's urban areas.
- ☒ Pedestrian trips increase from six percent in sprawling development to 25 percent in mixed-use high-density development with pedestrian facilities.
- ☒ Air conditioning consumes about six to 11 percent of the electricity used in single family homes and about seven percent of all residential electricity in California.
- ☒ Neighborhoods with tree shaded streets are up to 10 degrees Fahrenheit (about 5.5 degrees Celsius) cooler than less shaded areas. A one degree Celsius change in average summer temperature for a large region could affect total electricity space cooling use by 1-2 percent.
- ☒ Studies suggest that improving pedestrian facilities will increase the number of walking trips. Short vehicle trips to work are predicted to decline by 20 percent and shopping-personal business driving trips would decline by 18 percent as a result of building pedestrian friendly communities.
- ☒ The Real Estate Research Corporation determined that residents of more compact mixed-use development use half the gasoline consumed for transportation as residents of suburban low-density developments. This translates into an annual savings of \$660 (1995) per year in household transportation fuel costs.
- ☒ Public infrastructure costs, including new streets, street repaving, natural gas lines and utility wires are less per housing unit in compact developments. Houses built in sprawl may cost from 40 to nearly 400 percent more to serve with public services.

Source: "Energy Aware Planning Guide," California Energy Commission, 1993



8.2.6 Historic Resources

What sets Merced apart from many other communities in the state is its historic charm and character. While much of the City's historical resources have been lost over the years to fire and reconstruction, there is still a significant number of buildings, structures, trees and other reminders of the City's origins.

In 1985, in response to community concerns over the loss of some of the City's historic resources, and the perceived threats to many remaining resources, a survey of historic buildings was undertaken in the City. The survey focused on pre-1941 districts, buildings, structures, and objects of historical, architectural, and cultural significance. The survey area included a roughly four square mile area of the central portion of the City.

Chapter 1, Introduction, of this *Merced Vision 2015 General Plan* contains a narrative history of the City's overall growth and development (Section 1.3.3). The following section focuses mostly on individual buildings and neighborhoods and the historical or cultural context in which they were built.

Historic Setting

The first settlement in the vicinity of Merced, consisting of a general store,

saloon, and a blacksmith shop, was established on Bear Creek in 1870, but it was the construction of the Central Pacific Railroad line through the Central San Joaquin Valley that gave rise to the present City of Merced.

As the company laid the track down the Central Valley in 1871, it established towns at strategic locations as shipping points for grain and other agricultural products. Charles Henry Huffman, known by some as the "Father of Merced," was the townsite man for the railroad and responsible for locating the new town of Merced. Surveyors began laying out the town site of Merced on a treeless plain to the south of the creek in November 1871. The street grid was aligned with the southeast trending railroad tracks resulting in the northwest to southeast orientation of Merced's numbered streets.

Temporary buildings, including a depot, hotel, stables, saloons, restaurants, a butcher shop, and residential sheds and tents began to rise along the tracks, but the first permanent structures in Merced were built following the auction of lots that took place on February 8, 1872. John C. Smith bought the first lot for \$575 to put up a saloon. By the end of the month, the foundations of 15 to 20 buildings were laid, including those of the El Capitan Hotel. This four-story, luxury hotel served as the railroad terminus for tourists bound for Yosemite. Merced's role as the "Gateway to Yosemite" significantly affected the economic growth and development of the City throughout its history. The first volunteer fire department was established in 1873.

From the beginning, Merced's founding fathers envisioned the community as the county seat because of its location toward the center of the county and its proximity to the railroad. To prompt an election to move the county government from Snelling to Merced, the railroad offered the county the four city blocks of Courthouse Park at 21st and N Streets. An election was held within nine months and Merced won.

Following the transfer of the county seat from Snelling to Merced, plans were made for the construction of a new county courthouse. Plans were submitted by Albert A. Bennett, one of the architects who had taken part in the design of the State Capitol in Sacramento. Bennett designed the ornate building in the Italianate style, and in May 1875, the Merced County Courthouse was dedicated.

By 1875 Merced's commercial and industrial districts were well established. Town promoters had envisioned that the main business section would be along Huffman Avenue (currently "M" Street) and Courthouse Avenue ("N" Street), but frugal buyers bought the less expensive lots near the tracks along Main Street and Front Street (16th Street). Commercial establishments located on the north side of Front Street with hotels, stables, and small stores situated on Main Street behind the Front Street business district. The railroad depot, warehouses, and other industrial buildings were located along the tracks. Water was supplied to this area by a large elevated water tank near Main and M Streets.

The early educational and spiritual needs of Merced's non-oriental community

were met by buildings located in the vicinity of the Courthouse. The Academy (Merced's first school), St. Patrick's Catholic Church, and the Methodist Episcopal Church were all built in the area.

Merced had three distinctive residential districts after only three years of existence. Most of Merced's residences were located on 18th and 19th Streets between J and M Streets and the eastern end of Main extending to H Street. Most of the homes were simple single-story wooden structures. The first prestige neighborhood in Merced was "Little Snelling," settled by former residents of the old county seat. Little Snelling was located south of the tracks across from the El Capitan Hotel, between N and O on 14th and 15th Streets and included more elaborate homes. Chinatown, a compact self-sustaining community, was located one block to the east of Little Snelling, but was built at a higher density and included a mix of homes and businesses and a Buddhist Temple (or Joss House).

The population of Merced grew from 1,525 in 1880 to 2,009 in 1890--an increase of over 30 percent. During this decade, the more sparsely populated areas of Central Merced filled in and new commercial businesses were built on Front Street. Some fine residences built for Merced's more prosperous citizens also sprang up, including the Huffman Mansion situated on the north bank of Bear Creek at the end of M Street, completed in 1882 for a cost of \$100,000.

Improvements were made to Merced's utilities during the last half of this

decade. The Merced Gas and Electric Company provided current for the town's streetlight system which became operational in 1888. The construction of Lake Yosemite, which began to supply Merced with water in 1889, coincided with an increase in building activity in the downtown area.

Substantial brick buildings began to fill empty lots or replace wooden structures on Front and Main Streets. Main Street began to take on more significance as a commercial district. Merced was incorporated as a sixth class city on April 1, 1889.

Although the census of 1890 registered a slight decrease in Merced's population, several important developments affecting Merced's future growth took place in the 1890's. 21st Street began to emerge as Merced's preeminent neighborhood. By 1896, electrical power was being supplied to domestic and commercial customers by the Merced Falls Gas and Electric Company. The community's educational system was enhanced by the construction of Merced's first public high school in Courthouse Park in 1897.

The most significant event of this decade took place when the San Francisco and San Joaquin Valley Railroad was granted a right-of-way through Merced. The railroad was given the use of 24th Street in the hope that the competition would force the Southern Pacific to lower its exorbitant freight rates. A station was built along the newly laid tracks near K Street in 1896. The elevated road bed may have retarded later growth in northern Merced by greatly reducing access to this area which remained rural in character until the 1920's. The

railroad became part of the Atchison, Topeka, and Santa Fe in 1900.



The population trend of the preceding 10 years was reversed during the first decade of the 20th century but while the number of inhabitants grew by about 60 percent to 3,102, the expansion of the residential areas was relatively modest. The most significant residential development was the opening of the Bradley addition in 1903, located on an extension of 21st Street to the east of the canal which ran down G Street, a street that marked the eastern boundary of the original town plan. Large 10 to 20 acre parcels with large homes were characteristic of this area. The pace of commercial construction was relatively restrained.

Improvements in public services and utilities initiated during this period include the establishment of a sewer system (1901), the replacement of boardwalks and dirt paths with concrete sidewalks (1903), the construction of a new county hospital (1903), paved streets (1906), and 24-hour electric service (1907).

The construction of the Yosemite Valley Railroad (1905-1907) had a significant impact on the development of west Merced. The station was located off the end of Main Street in the present day Westgate Shopping Center while the roundhouse and support facilities were situated where Fremont School stands today. The tracks, laid down the middle of R Street, may have impeded growth in the west end of Merced, which did not develop until after the removal of the tracks in 1946.



Hotel Tioga (Built 1928)

The choice of Merced as the headquarters of the new railroad brought jobs to the City, increasing the demand for goods and services, and may have been a factor in the surge of both commercial and residential development that took place prior to World War I. Significant World War I era buildings included the new El Capitan Hotel, Shaffer Building, the Central Presbyterian Church (1916), Our Lady of Mercy (1917), the Masonic Lodge (1917), and the Santa Fe Railroad Station (1918). Merced's water system was improved by the construction of the water tower at pumping station number one, located behind the Huffman mansion, which replaced Lake Yosemite as Merced's source of water.



Southern Pacific Depot (circa 1930)

By 1930, Merced's population had increased to 7,066, due in part to the great expansion of 1927 when four times more building permits were issued than the average of the preceding 14 years. Many of the City's most important buildings were constructed during this period, including the Hotel Tioga (1928), the Main Street Post Office (1923), Mercy Hospital (1923), and the American Legion Hall and the Women's Club (both 1926).

With the opening of the Yosemite Highway (Highway 140) in 1926, 16th Street began to develop in response to increased automobile traffic. As a result, motels, restaurants, and automotive-related businesses were built along this stretch.

During the 1920's, Merced's residential districts expanded west to the Yosemite Valley railroad tracks on R Street, east to G Street, and north to Bear Creek filling in much of the area between the Santa Fe tracks and the creek. Duplexes and apartments began to take on an increased role in satisfying the housing needs of Merced's growing population. Several new schools (Merced High School, Galen Clark, and John Muir) were also built in the years preceding the Great Depression.

The economic disruption and stagnation brought about by the collapse of the stock market was documented in Merced by a dramatic drop in new construction, although a few important buildings (Ivers and Alcorn, Our Lady of Mercy School, and Golden State Theater, now the Merced Theatre) were completed in the early 1930's. Federal reconstruction programs provided the City with a new post office, the Bell Station (1933), and Merced's second water tower (1934).

Following a hiatus of several years, private capital was once again invested in Merced's business district. By 1940, the displacement of Front Street as Merced's primary commercial district was assured and Main Street became the community's banking, mercantile, professional, and entertainment center. Today, the foundations of the pioneer buildings that once lined Front Street lie beneath a veneer of asphalt while Main Street remains a visual reminder of Merced's later economic development.

8.3 ISSUES & INTENT

To accommodate future growth in the City of Merced, while maintaining the characteristics of the City which make it both a healthy and a special place to live, several concerns must be addressed.

8.3.1 Soil Resources

Conversion of "prime" agricultural soils to non-agricultural uses can result in an irreversible loss in the agricultural production capacity of the region. Goals and Actions contained in the Urban Expansion (2) and Open Space, Conservation, and Recreation (7)

Chapters of this plan focus on the issue of agricultural soil loss. These policies attempt to balance the urban growth needs of the region with the need to minimize urban encroachment onto "prime" agricultural soils.

8.3.2 Water Resources

Long-term growth and development in Merced depends on adequate clean water resources. Sustained development can be accommodated through the implementation of goals and actions contained in the Open Space, Conservation, and Recreation (7) and Public Services and Facilities (5) Chapters of this plan. These goals and actions address the need to preserve and protect water quality while planning for the future water needs of the City and surrounding agricultural lands.

8.3.3 Wildlife Resources

Man's settlement of the San Joaquin Valley has had a profound impact on the wildlife resources of this region over the past 100 years. Today it is recognized that the health of our natural plant and animal communities is a barometer for the overall health of our environment.

It is also recognized that modern healthy human communities can co-exist beside healthy wildlife communities with the sound application of open space policy and technology. The Open Space, Conservation, and Recreation Chapter of this General Plan (Chapter 7) contains goals and actions which are directed to the preservation, protection and enhancement of the important wildlife habitat resources found in the Merced urban area.

8.3.4 Air Resources

Poor air quality has become a negative symbol of modern urban development. Our quality of life is often measured by the quality of the air in our urban places. Poor air quality is related to a number of factors. Air quality policies in this Plan address this complex environmental issue through goals, policies and actions contained in the Urban Expansion (2), Urban Design (6), and Transportation and Circulation (4) Chapters of this Plan. This chapter contains several specific air quality goals, policies and actions which support the overall City effort to restore the region's clean air.

8.3.5 Energy Resources

Energy use is closely related to issues relating to air quality. The burning of fossil fuels as an energy source has been one of the most significant contributors to our deteriorating air quality. Long term growth is highly dependent upon how we use energy today and how we plan future energy use. This chapter

contains specific goals and policies which address issues of energy conservation and encourage use of sustainable energy resources. It should be noted, however, that like air quality, the use and conservation of energy are complex matters. It has a close relationship to topics such as urban design, land use, traffic and circulation and conservation. Many goals, policies and actions contained in other chapters of this Plan also have an indirect impact on energy use and conservation.

8.3.6 Historic Resources

Historic and cultural resources are important elements in appearance and atmosphere of Merced. The *Merced Vision 2015 General Plan* contains numerous references to the linkages between the past, present and expected future. This chapter contains specific goals and actions intended to guide future city-wide historic preservation efforts.



Aerial View of Merced (circa 1945)

8.4 SUSTAINABLE DEVELOPMENT GOALS, POLICIES, AND ACTIONS

As previously noted, sustainable development goals, policies and actions are, by necessity, integrated into the entire *Merced Vision 2015 General Plan*. The following section of this chapter specifically addresses goals and actions exclusively relating to air quality, cultural resources and energy.

Goal Area SD-1: Air Quality

GOALS

- Clean Air with Minimal Toxic Substances and Odor
- Clean Air with Minimal Particulate Content
- Effective and Efficient Transportation Infrastructure
- Coordinated and Cooperative Inter-Governmental Air Quality Programs

POLICIES:

- SD-1.1** Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Merced.
- SD-1.2** Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.
- SD-1.3** Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment.
- SD-1.4** Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.
- SD-1.5** Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs.
- SD-1.6** Reduce emissions of PM10 and other particulates with local control potential.

Policy SD-1.1

Accurately Determine and Fairly Mitigate the Local and Regional Air Quality Impacts of Projects Proposed in the City of Merced.

The environmental assessment process required under the California Environmental Quality Act (CEQA) is by far the most important tool for local government to communicate with other agencies and the public on the air quality impacts of development within a community. CEQA, however, has only limited applicability with respect to development review and approval. The law focuses on “Discretionary” projects, as opposed to “administrative” development proposals. As a result, large scale developments, which typically require “discretionary” permits are often subjected to CEQA mitigation that is not required of “administrative” projects. While consistent application of CEQA can make a difference in project-level air quality impacts, uniform air quality standards for all projects could make a significant contribution toward limiting regional, cumulative air quality impacts.

Implementing Actions:

1.1.a Develop uniform standards for mitigating air quality impacts resulting from development.

The City will work closely with the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) to develop uniform standards for determining “thresholds of significance” for air quality impacts for use in the City’s CEQA review process. The City will also identify cost effective and uniform mitigation standards and use these standards in a manner that they can be applied to all development in a consistent and uniform manner.

1.1.b Ensure that significant air quality impacts identified during CEQA review are consistently and fairly mitigated.

The City will work closely with the SJVUAPCD, builders and other interested parties to develop uniform and appropriate mitigation measures in the City. City policies and provisions will attempt to eliminate mitigation policies and practices which discourage large-scale comprehensively planned projects.

1.1.c All air quality mitigation measures should be feasible, implementable, and cost effective.

City planning efforts have focused on development standards which discourage growth patterns that unnecessarily have an adverse impact on air quality. Further mitigation of air quality impacts, at the project specific level, should focus on the unique circumstances of the project and the site with respect to air quality impacts. Project specific mitigation measures will be developed to assure that they can be implemented in a manner so as to achieve the desired effect and that the benefits in improved air quality are justified in light of private and public expenditure.

1.1.d Work with the SJVUAPCD to identify regional cumulative transportation and air quality impacts.

The City shall work with the SJVUAPCD, and other local governments in the region, to perform uniform air emissions modeling on the cumulative land use changes in the region. The City will participate in regional planning efforts which will fairly assess the air quality impacts of various local governmental growth policies. It is expected that this effort would lead to regional growth and development strategies (developed, administered and implemented at the local government level) which will substantially reduce the adverse impacts of new growth and development on regional air quality.

1.1.e Reduce the air quality impacts of development projects that may be insignificant by themselves, but cumulatively are significant.

Small residential and commercial projects usually do not cause significant air quality impacts, but when a number of small unrelated projects are developed in an area, they produce a cumulative impact. These potential impacts have been addressed in the development of the Merced General Plan Land Use Diagram. Individual projects which are consistent with these General Plan policies should be subject to limited air quality analysis which focuses on neighborhood level impacts. Other projects will need to be evaluated within the context of the net cumulative effect on regional air quality. These principals of review shall also be applied to development proposed outside of the City's SUDP which are subject to City review and comment.

1.1.f Encourage innovative measures to reduce air quality impacts.

Innovative measures can be identified during a pre-application consultation process and during city staff/applicant consultation over CEQA mitigation approaches.

Policy SD-1.2

Coordinate Local Air Quality Programs With Regional Programs and Those of Neighboring Jurisdictions.

Effective coordination and cooperation between local agencies in the implementation of government air quality programs is critical. Air quality problems transcend local agency boundaries and management of these problems requires various units of government to search for comprehensive solutions to the problem. Local governments working together for a common interest can multiply the resources available to accomplish air quality goals.

Implementing Actions:

1.2.a Work with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.

The City can create an environment that allows and encourages staff members to keep up with activities in neighboring jurisdictions and regional agencies. This may be accomplished by sending representatives to appropriate meetings, by contacting counterparts in other agencies when developing programs, and most important, by active participation in regional program planning.

The Planning Department, as required by law, maintains internal procedures to ensure that all affected jurisdictions and agencies are notified of development proposals. When another agency notifies the City of a pending project, air quality related issues, such as the following, should be examined:

- 1) Congestion on City streets from increased traffic caused by the project;
- 2) Effects on the viability of transit and pedestrian-oriented developments in your area (i.e., approval of a low density development on the same transit corridor as your transit-oriented development could reduce the ability of the transit provider to provide reasonable headways);
- 3) Failure of the other jurisdiction to require the construction of a segment of a bikeway planned in the regional bikeway plan;
- 4) Proposed circulation amendments that may restrict traffic flow to or from the City or that produce urban sprawl.

1.2.b Consult with the SJVUAPCD during CEQA review for discretionary projects.

Ensure that the SJVUAPCD is on the distribution list for all CEQA documents. Conduct a pre-application air quality review to identify issues or problems that might require redesigning or major alterations of the project.

1.2.c Coordinate with other jurisdictions and other regional agencies in the San Joaquin Valley to establish consistent and uniform implementation measures (trip reduction ordinances, indirect source programs, etc.).

The City will work with the Council of Governments on programs implementing transportation control measures. Work with the County and neighboring cities to ensure programs are complementary. The City will maintain its involvement in the rule development process and provide representation on air quality steering and advisory committees.

1.2.d Support cost-effective multi-use modeling and geographic information system (GIS) technology.

Maintain participation in the Merced County Association of Governments (MCAG) GIS project which is part of the Valley-wide GIS project with the Valley Councils of Government and the SJVUAPCD. This land use data can be used to evaluate air quality impacts in the City.

Policy SD-1.3

Integrate Land Use, Transportation, and Air Quality Planning for the Most Efficient Use of Public Resources and for a Healthier Environment.

In the past, transportation planning emphasized the construction of new roadway capacity to reduce congestion and to meet the needs of planned development. Air quality legislation now mandates all transportation plans to consider air quality. This new emphasis requires our land use and transportation plans to create patterns of development and transportation infrastructure that reduce the need for new capacity and improve air quality.

Implementing Actions:

1.3.a The City of Merced will consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community.

Develop coordinated land use and transportation plans to meet federal, state, and local air quality requirements. Ensure that land uses proposed in general plan updates and general plan amendments are supported by a multi-modal (auto, transit, bicycling, pedestrian, etc.) transportation system and that the land uses themselves support the development of the transportation system.

1.3.b Transportation improvement should be consistent with the air quality goals and policies of the General Plan.

Analyze project submittals for consistency. Examples of inconsistent projects are a road widening project that does not consider transit, bicycling, and pedestrian needs along the route or an intersection signalization project that does not involve the installation of signal actuators that can be activated by bicyclists or pedestrians.

1.3.c The City of Merced will consult with transit providers to determine project impacts on long range transit plans and ensure that impacts are mitigated.

Work with transit providers to develop long range transit plans based on land use plans supportive of future transit service. Consult with transit providers during the CEQA process to determine the impacts of development projects on the transit system.

1.3.d Encourage the construction of low income housing developments that use transit-oriented and pedestrian-oriented design principles.

The Village Plan policies provide sufficient density to make public transit feasible. The City, in cooperation with other public agencies, may explore the use of special funding sources which could assist in financing necessary infrastructure which would enhance residential development and maintain affordability for low and moderate income households.

1.3.e The City of Merced will work with Caltrans and MCAG the Regional Transportation Planning Agency to minimize the air quality, and mobility impacts of large scale transportation projects on existing neighborhoods.

Use existing rail right of ways where feasible. Provide safe pedestrian and bicycle connections between neighborhoods and shopping areas when they become separated by new rail or freeway projects

(Notes: The Urban Design goals and policies contain specific standards for land use which incorporate the Urban Villages design concepts for developing land uses which support development and operations of public transportation systems and other alternative modes of transportation.)

Policy SD-1.4

Educate the Public on the Impact of Individual Transportation, Lifestyle, and Land Use Decisions on Air Quality.

Without the understanding and support of the general public, local air quality programs cannot be expected to achieve the desired results. Programs to educate the public on air quality issues are a vital component of a successful air quality program

Implementing Actions:

1.4.a Work to improve the public's understanding of the land use, transportation, and air quality link.

The City should support the SJVUAPCD efforts to educate developers and the public on the benefits of pedestrian and transit friendly development and should participate in local programs that can reduce vehicle trips and miles traveled

1.4.b Support SJVUAPCD efforts to encourage formation of local groups that provide air quality education programs.

The City supports the SJVUAPCD efforts in forming a community-wide public/private air quality organization to promote air quality education programs. To this end, the City will work with the SJVUAPCD, Farm Bureau, the University of California Extension Studies and farm organizations on educational programs.

Policy SD-1.5

Provide Public Facilities and Operations that can Serve as a Model for the Private Sector in Implementation of Air Quality Programs.

City and county governments are often the largest employers in a jurisdiction and operate large vehicle fleets. While it is recognized that the City of Merced has very limited resources with which it can play any meaningful role in supporting private sector energy conservation efforts, the City can pursue policies and programs which may have private sector applicability. In this respect, the City may take a leadership role in implementing employer-based trip reduction programs and fleet operator programs to reduce the City's emissions, demonstrate cost effective energy management techniques, and save public money. Options available to the City of Merced and other larger employers include:

Implementing Actions:

1.5.a Study implementing innovative employer-based trip reduction programs for their employees.

Ensure that employment contracts negotiated with employee unions are flexible and allow workers to participate in programs that reduce commute trips.

1.5.b Fleet vehicle operators should evaluate alternatives which include replacing or converting conventional fuel vehicles with clean fuel vehicles.

Budget for clean fuel vehicles in long range capital expenditure plans.

1.5.c Support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible.

Work with the telephone company and interested public agencies to develop a multi-user teleconferencing center. Use commercial teleconferencing facilities if they are cost competitive considering travel costs and employee time savings.

1.5.d Make use of telecommuting programs as part of their trip reduction strategies.

Identify positions where telecommuting is feasible. Consider a pilot program with employee volunteers for the most promising positions.

1.5.e Encourage the development of state of the art communication infrastructure linked to the rest of the world.

Support changes to the State Uniform Building Code to encourage new homes and businesses to be wired with fiber-optic cables or to encourage wiring conduits with easy access and adequate capacity to allow for efficient retrofitting. Encourage the development of video-teleconferencing facilities and telecommuting centers. The City should study formation of public/private partnerships with major employers employing large numbers of long distance commuters. Telecommuting centers are generally compatible with mixed-use, pedestrian-oriented and transit-oriented neighborhood commercial areas.

Policy SD-1.6

To Reduce Emissions of PM₁₀ and Other Particulates With Local Control Potential.

The levels of PM₁₀ (particulate matter less than 10 microns in diameter) exceed state and federal health based standards. The San Joaquin Valley is classified as a serious non-attainment area for PM₁₀ under the federal criteria. Because of this classification, the Air District is subject to a series of federal mandates aimed at achieving federal ambient air quality standards. Control efforts for sources under the jurisdiction of cities and counties can significantly reduce these emissions.

Implementing Actions:

1.6.a Work with the SJVUAPCD to reduce to the maximum extent feasible particulate emissions from construction, grading, excavation, and demolition.

The City should include PM₁₀ control measures as conditions of approval for subdivision maps, site plans, and grading permits. This will assist in implementing the District's PM₁₀ regulation.

The City should inform developers of the requirements of the District's PM₁₀ regulation when they apply for a grading permit.

Use strategies to minimize soil disturbances including:

- Minimize vegetation removal required for fire prevention to the extent compatible with public safety considerations. Utilize alternatives to disking, such as mowing, to the extent feasible. Where vegetation removal is required for aesthetic or property maintenance purposes, encourage or require alternatives to disking.
- Condition grading permits to require that graded areas be stabilized from the completion of grading to commencement of construction.

1.6.b Reduce PM₁₀ emissions from City maintained roads to the maximum extent feasible.

Continue the City's street cleaning program aimed at removing heavy silt loadings from roadways which result from sources such as storm water runoff and construction sites.

Goal Area SD-2: Cultural Resources

GOALS:

- **A Diverse And Rich Historic and Cultural Resource Environment**
- **A Long-Term Community Historic Preservation/Improvement Program**

POLICIES:

SD-2.1 Identify and preserve the City's archaeological resources.

SD-2.2 Identify and preserve the City's historic and cultural resources.

SD-2.3 Develop and promote financial incentive programs for historic preservation efforts.

Policy SD-2.1

Identify and Preserve the City's Archaeological Resources.

It is thought that the San Joaquin Valley was inhabited in the late Pleistocene and early Holocene period, dating from perhaps as early as 12,000 years before the present (B.P.). Prior to Euro-american arrival, the San Joaquin Valley was occupied by Yokuts Indian populations. The Yokuts settlement system was characterized by principal villages on terraced areas adjacent to watercourses. Knowledge of these early inhabitants is limited. It is likely that the streams traversing the Merced Planning Area served as settlements for Yokuts and it is a State policy to preserve and protect the archaeological resources of the region

Implementing Actions:

- 2.1.a Utilize the inventory of known archeological sites maintained the Central California Information Center for the review of development proposals.**

The Archaeological Inventory shall be used to identify areas within the Merced Planning Area subject to preservation practices. For large scale development projects proposed in close proximity to a natural water course, or in an area which exhibits potential for containing cultural resource material, preliminary cultural resource inventories should be conducted by a qualified archaeologist. Information from these site investigations shall be provided to the Central California Information Center for recordation.

- 2.1.b Utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.**

Cultural resource discoveries are subject to the rules and regulations in State law. The City should work closely with the building trades industry to facilitate compliance with these laws and to assist where necessary in minimizing the adverse impacts of the implementation of these laws on the City's construction industry.

- 2.1.c If appropriate, consider reconstruction of archaeological sites in city parks, on school grounds, in open space areas, or other suitable locations where they can serve an educational purpose.**

In order to increase the public's awareness to the cultural heritage of Merced, the City should support the efforts of Native American groups and individuals to develop cultural displays and exhibits in local public places.

Policy SD-2.2

Identify and Preserve the City's Historic and Cultural Resources.

The City of Merced contains many fine examples of its early development. Historic buildings, tree plantings, and other improvements serve to give the city a special character which is unique in the San Joaquin Valley. The City of Merced is dedicated to preserving, protecting and enhancing its historic and cultural resources.

Implementing Actions:

- 2.2.a Expand City cultural and historic information resources.**

Establish and maintain an inventory of cultural, historic, and architecturally significant resources within the City and the planning area by expanding and improving the existing inventory of the downtown area. Consider a program or support other programs which designate historic landmarks and architecturally significant structures in the City.

- 2.2.b Support community groups and individuals working to preserve, protect and enhance the City's Historic and Cultural Resources.**

In accordance with the City's Historic Preservation Ordinance (MMC 17.54) which outline procedures and criteria for historic designation, continue to support Historic Preservation Commission activities. Support, as feasible, both private and public efforts to preserve and rehabilitate historic structures in the City, including the need to protect a site from intrusion of surrounding land uses which are uncomplementary or incompatible.

- 2.2.c Review and revise as necessary, the City's development/construction regulations to facilitate the preservation of historic structures.**

Investigate and consider the possibility of using historic overlay zones in conjunction with the Historic Preservation Ordinance to control the use or modification of significant historic areas in the community.

- 2.2.d Support, as feasible, efforts to promote the preservation of historically or architecturally significant structures in the City.**

Support the preservation of the downtown's historically and architecturally significant structures. Encourage the design of new developments to be consistent with the design, character, and building bulk of the existing downtown. Encourage and support efforts to preserve historic structures in the Courthouse Square area, Downtown, Central Merced, and throughout the City.

2.2.e Support efforts to designate historic districts within the City.

The 1985 City of Merced Historic Building Survey, prepared by the City of Merced Redevelopment Agency, documents the existence of four residential and one commercial district which may be designated as “Historic Districts.” The City should, as appropriate, be supportive of private efforts to have these districts achieve appropriate recognition and designation as National Registry Districts or by means of some other historic district recognition.

These “Historic Districts” are generally as follows:

- 1) “Little Snelling” --A residential district bounded by the Southern Pacific Railroad tracks to the north, “O” Street to the west, Highway 99 to the south, and the midline of the 600 block between 14th and 15th Streets to the east;
- 2) A residential district in East Central Merced bounded by the Santa Fe Railroad tracks to the north, “G” Street to the east, 18th Street to the south, and Canal Street to the west;
- 3) A residential district in West Central Merced bounded by the 800 block of 23rd Street to the north, “O” Street to the east, 18th Street to the south, and “R” Street to the west;
- 4) A fourth residential district in North East Central Merced bounded by Bear Creek to the north, “G” Street to the east, the Santa Fe Railroad tracks to the south, and “I” Street to the west; and,
- 5) The “Downtown Merced Historic District,” which centers on the 300 to 600 blocks of Main Street terminating at the old Golden State Theater on the east and the Hotel Tioga on the west. It also extends up Canal Street, incorporates the 400 block of 18th Street, and includes the western side of “M” Street near 16th Street.

Policy SD-2.3

Develop and Promote Financial Incentive Programs for Historic Preservation Efforts.

Historic and cultural resources can be a financial liability to private citizens. In many instances, it is more economical to demolish and build new structures than to rehabilitate historic structures. The economics of maintaining and improving historic properties have resulted in many building and structures being lost or allowed to deteriorate to such a degree that preservation is impractical. The City will assist in the identification of financial resources that can be used by individuals and groups in the city to preserve, enhance and protect the historic and cultural resources of the city

Implementing Actions:

2.3.a Work to identify financial resources which can be used for historic preservation efforts in Merced.

Utilize, where possible, Redevelopment Commercial Rehabilitation Loan Program funds to help finance restoration of historic buildings and structures in Merced. Identify other sources of historic preservation funds, such as Community Development Block Grants, Office of Historic Preservation Grant Funds, tax incentives, etc., to be used to finance historic renovation/restoration projects.

2.3.b Provide access to information on financial resources available to property owners to assist in historic preservation/restoration efforts.

Refer interested property owners to the State Office of Historic Preservation, for information regarding tax advantages of National Registry of historic properties, special building code standards applicable to historic buildings and structures, and loan and grant programs available to finance historic preservation/ renovation.

Goal Area SD-3: Energy Resources

GOAL

- Sustainable Energy Resource Use in the City of Merced

POLICIES

SD-3.1 Promote the use of Solar Energy technology.

SD-3.2 Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development.

Policy SD-3.1

Promote the Use of Solar Energy Technology.

Merced is located in an area that can benefit from the use of solar energy technology to lower household heating costs.

Implementing Actions:

- 3.1.a** Encourage the use of solar energy in design and management of all new construction in the City.

The City should work with members of the building and utility industries in identifying public policies and regulations which inhibit the construction of energy efficient development. The City should prepare guidelines and standards which can be used by members of the construction industry in the design of new building and development projects.

- 3.1.b** Require all new subdivisions to maximize, to the extent feasible, proper orientation of lots with regard to solar utilization.

Proper solar orientation of lots often results in inefficient or poor circulation system designs. Good subdivision design attempts to maximize the benefits of lot orientation for solar access while maintaining the optimum circulation system design. The City planning staff should develop a library of subdivision design concepts that have proven effective in furthering energy conservation goals in other similarly situated communities and the City of Merced. This information should be made available to real estate developers and home builders.

- 3.1.c** Encourage developers and builders to properly design all structures on each building lot in the City to take fullest advantage of solar use in heating and cooling.

The City planning staff should develop a library of building design concepts that have proven effective in furthering building energy conservation goals in other similarly situated communities. This information should be made available to real estate developers and home builders.

- 3.1.d** Encourage developers and builders to maximize “passive” solar design, such as large south-facing windows for winter heat gains and overhangs and shading for summer heat protection.

The City should collect and make available to builders and homeowners design solutions to passive solar construction problems and support local the building industry’s efforts to comply with State regulations on energy conservation design standards.

3.1.e Pursue further investigation of potential benefits utilizing building code revision, narrower streets, solar access rights, and other energy-saving techniques.

The City should continue to monitor policy developments at the state level and in other San Joaquin Valley communities to determine the most efficient and effective design policies which might be applied to new development in the City. Where appropriate, staff should recommend changes in policies and standards where it can be demonstrated that such changes will appreciably reduce energy consumption.

(Notes: These policies are based on the City's Energy policies adopted in 1979.)

Policy SD-3.2

Encourage the Use of Energy Conservation Features and Low-Emission Equipment for All New Residential and Commercial Development.

Natural gas burning appliances used for space heating, water heating, and cooking are a sizable source of NO_x emissions. Consumption of electricity causes pollutant emissions when the power plant is fueled by fossil fuels. Local efforts to reduce energy consumption can save consumers money and improve air quality.

Implementing Actions:

3.2.a Work with the local energy providers on voluntary incentive-based programs to encourage the use of energy efficient designs and equipment.

- Encourage the incorporation of energy conservation features in the design of all new construction and the installation of conservation devices in existing developments.
- Encourage energy audits of existing structures, identifying levels of existing energy use and potential conservation measures.
- Encourage the use of passive design concepts that make use of the natural climate to increase energy efficiency.
- Encourage new development not to preclude the use of solar energy systems by uses and buildings on adjacent properties.
- Incorporate the most energy-efficient design consistent with a reasonable rate of return and the recognition of the environmental benefits of energy conservation for all local government facilities and equipment.
- Perform an energy audit of existing public buildings and retrofit where cost-effective.
- Develop an energy management system for public buildings.

3.2.b Cooperate with the local building industry, utilities and the SJVUAPCD to promote enhanced energy conservation standards for new construction.

Work with the California Energy Commission (CEC) and local utilities to identify areas of the existing state standards that can be enhanced most cost-effectively.

3.2.c Encourage new residential, commercial, and industrial development to reduce air quality impacts from area sources and from energy consumption.

- Support the use of weatherization programs for existing residential units and businesses.
- Encourage the installation of supplemental solar water heaters for new residential units.
- Support future SJVUAPCD incentives and regulations to reduce emissions from swimming pool heaters.
- Encourage the use of solar water and pool heaters, and energy efficient lighting.
- Encourage developers to orient housing units and landscape building sites to maximize solar heating and cooling.
- Encourage the installation of energy efficient fireplaces and wood stoves in lieu of normal open hearth fireplaces.
- Establish standards for the provision of natural gas lines or electrical outlets to backyards to encourage the use of natural gas or electric barbecues, and electric gardening equipment.
- Support the use of electric vehicles, such as golf carts, where appropriate. Provide electric recharge facilities for electric vehicles.
- Encourage the installation of natural gas hook-ups for washers and dryers in housing units.

8.5 TECHNICAL APPENDICES

8.5.1 Merced Area Soil Resources



The Merced Planning Area is situated within four physiographic land forms and five soil association groupings according to the Merced Area California Soil Survey. These physiographic groupings and associations are described as follows:

Soils of the Alluvial Fans and Flood Plains Covering approximately 341 square miles in Merced County, this physiographic region is composed of about 92 square miles of recently deposited alluvial material, and 249 square miles of material that is geologically young but somewhat older than most recent deposits.

Recent alluvial fans and flood plains are mainly along the Merced River bottom lands which extend along the northern part of the Merced County. There are several occurrences of alluvial fans and flood plains near the City of Merced. Many small alluvial fans, flood plains, and stream ridges have been formed of material deposited by Burns Creek, Bear

Creek, Owens Creek, Mariposa Creek, and several other minor streams. These areas receive little or no fresh alluvium deposits.

This physiographic grouping of soils contains six major soil associations, one of which is extensive in the urban setting of the study area. The area extends north of Black Rascal Creek to an area near the southern boundary of the planning area. This area is designated as the *Wyman-Yokohl-Marguerite Association*.

The *Wyman-Yokohl-Marguerite* (WYM) **Association** consists of well-drained, medium textured and moderately fine textured soils that developed from alluvium derived from slate, schist, and metamorphosed sandstone.

These soils show various degrees of development. The *Honcut* and *Yolo* soils along the streams are uniform throughout their profile. Between the stream valleys, the *Wyman* soils have slightly more clay in the subsoil than in the surface soil, and the *Ryer* soils have a moderate accumulation of clay in the subsoil. Several areas of *Yokohl* soils have an indurated iron-silica hardpan. Most of the soils in this association are classified as “prime”.

Honcut soils lie along Bear, Burns, and Mariposa Creeks near Merced and along Dry Creek in the northern part of the County. They generally lie on low ridges parallel to the stream or on small, generally well-drained fans of smooth relief. The parent material was recently deposited alluvium derived from various sources, mostly basic igneous rocks.

Ryer soils are nearly level or gently sloping terraces along Dry Creek and Burns Creek in the area of Merced. These soils are well drained except in small depressions. The parent material was fine sandy or silty alluvium derived mostly from basic igneous rocks but include some material derived from sedimentary rocks. The natural vegetation is mainly grass and a few widely scattered oaks.

Wyman soils formed in basic igneous alluvium that had received fresh material for a considerable time. These soils are very gently sloping to nearly level. They are well drained, except where an unconforming hardpan substratum blocks moisture penetration for part of the year. The cover is annual grass and a few scattered oaks.

Yokohl soils developed on nearly level to gently sloping terraces and alluvial fans. None of the Yokohl soils are considered prime.

Yolo soils are very deep and slightly stratified. They formed from alluvium on flood plains and small alluvial fans of minor streams that drain the low foothills. These soils are well drained and have good cover of annual grass and herbs and many large oaks. The Yolo soils show little or no change in profiles with increasing depth. Yolo soils are high fertile and readily penetrated by roots and water.

Soils of the Poorly Drained Saline-Alkali Basin The southern portion of Merced County, extending northward into the southernmost portion of the planning area, is occupied by a broad, nearly level plain that has some low

mound micro relief. There is also a small inclusion of this physiographic grouping found in the vicinity of Highway 59 north of the existing City boundaries. This physiographic region covers approximately 227 square miles in Merced County. Strong accumulations of salts and alkali and poor drainage are characteristic of the soils in the basin.

The soil association of this physiographic region which is found in the planning area is the **Lewis-Landlow-Burchell** (LLB) association. This association occupies an area extending from the southern portion of the Merced planning area, west from the Southern Pacific Railroad, to within 5 miles of the San Joaquin River. These soils developed from medium textured to moderately fine textured alluvium that was derived partly from granite and partly from metamorphosed sedimentary rocks. Surface runoff is slow. The water table is generally high in this soil association.

Burchell soils, the only “prime” soil in this association, occur in slight depressions or nearly flat basins south of the City of Merced. The parent material was alluvium derived mostly from basic igneous rocks but partly from slate and metasandstone. These soils are kept moist by their imperfect drainage and high water table. These soils are mildly alkaline to moderately alkaline with accumulations of lime present in the subsoil. Natural vegetation is a heavy growth of marsh grasses and rushes.

Soils of the Low Terraces Covering approximately 186 square miles within Merced County, Soils of the Low Terraces physiographic grouping are found primarily within benches of several

miles in width along the Merced River. They widen into an alluvial fan surrounding the Cities of Atwater and Winton and are found along the western boundary of the planning area north of the present city limits and the Atchison Topeka-Santa Fe Railroad line.

One of the three soil associations of this physiographic region, found in the planning area, is the *San Joaquin-Madera Association*. The topography of this association is gently undulating and has a hog wallow micro relief. None of the soils in this association are considered “prime”.

Soils of the High Terraces This physiographic region covers approximately 188 square miles in Merced County and are found in a large portion of the planning area north of the existing City of Merced and the Lake Yosemite region. Of the three main areas found in this physiographic region, the largest is the lower gravelly found in the planning area and Lake Yosemite. The other two regions are characterized as a sandy terrace along the northwestern boundary of Merced County and a gravelly terrace south of the Merced River and east of the city of Winton.

At its eastern end, the area around Lake Yosemite is higher than the sandy terrace in the foothills north of the Merced River but slopes toward the west. Mound micro relief is characteristic of this area. There are almost no trees, but there is more grass than on the higher gravelly terraces of this physiographic region.

Of the two soil associations comprising this physiographic region, the *Redding-Pentz-Peters (RPP) Association* is found

in the planning area. The largest area of this association is located northeast of the City of Merced, and several smaller areas lie along the eastern boundary of Merced County. None of the soils in this association are considered “prime”.

Soil Capability Groups

The capability classification is a grouping of soils that shows, in a general way, how suitable they are for most kinds of farming. It is a practical grouping based on limitations of the soils, the risk of damage when they are used, and the way they respond to treatment.

In this system all soils are grouped into three levels; 1) the capability class, 2) subclass and 3) unit. There are eight capability classes, designated by Roman Numerals I through VIII. Soils in capability class I have few limitations. Soils in capability class VIII are rough, shallow or otherwise limited in a manner that they do not produce worthwhile yields of crops, grazing or wood products.

The subclass indicates major kinds of limitations within the classes. They are represented by a small letter following the Roman Numeral (i.e. IIIE). Within the subclasses are the capability units which correspond to the nature of the limitation considered in placing the soil in a capability class and subclass.

The two “prime” capability classes are described as follows:

- **Class I Soils** that are very good for crops and have few limitations that restrict their use.
- **Class II Soils** that have some limitations that reduce the choice of plants or that make some conservation practices necessary.

Non-prime classes of soils include:

- **Class III Soils** that have severe limitations that reduce the choice of plants or that make special conservation practices necessary, or both.
- **Class IV Soils** that have very severe limitations that restrict the choice of plants, that make very careful management necessary, or both.
- **Class V Soils** that have little or no erosion hazard but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover. There are no Class V soils found in Merced County or the Merced City planning area.
- **Class VI Soils** that have severe limitations that make them generally unsuitable for cultivation and that limit their use chiefly to pasture, range, woodland, or wildlife food and cover.
- **Class VII Soils** that have very severe limitations that make them unsuitable for cultivation and that restrict their use chiefly to pasture, woodland, or wildlife shelter.
- **Class VIII Soils** and land forms that have limitations that preclude their use for commercial plants and that restrict their use to recreation, wildlife shelter, water supply, or scenery.

Storie Index Rating System

There are several factors that can be examined to determine the value of a specific parcel of land for agricultural purposes. They include factors found in the *Soil Survey of the Merced Area*. This publication places what is called a

Storie Index rating on soil types, a rating based on the following four factors:

- (A) The characteristics of the soil profile and the effective rooting depth;
- (B) The texture of the surface soil;
- (C) Slope; and
- (X) Other factors, such as drainage, salts, alkali, and erosion.

Each of these four general factors is evaluated on the basis of 100 percent. A rating of 100 percent expresses the most favorable, or ideal, condition for crop production, and lower ratings are given for conditions that are less favorable. The index rating for a soil is obtained by multiplying the four factors, A, B, C, and X, and any factor may dominate or control the final rating.

Figure 8.6 depicts the location of the various soil capability groups throughout the Merced Planning Area. *Table 8.1* describes the characteristics of those soil types considered to be “prime.” *Figure 8.7* illustrates various soil associations located throughout the Merced area. *Figure 8.8* shows the ratings of farmland within the planning area in eight categories according to the 1992 Important Farmland Map for western Merced County, prepared by the California Department of Conservation.

MERCED CITY PLANNING AREA
SOIL SURVEY

LAND-CAPABILITY CLASSIFICATION

CLASS I & II EXCELLENT TO GOOD AGRICULTURAL SOIL

CLASS III & IV GOOD TO MODERATE AGRICULTURAL SOIL

CLASS V, VI, VII, & VIII FAIR TO UNSUITABLE AGRICULTURAL SOIL

SOURCE: SOIL CONSERVATION SERVICE 1962

CITY OF MERCED PLANNING DEPT 1973.

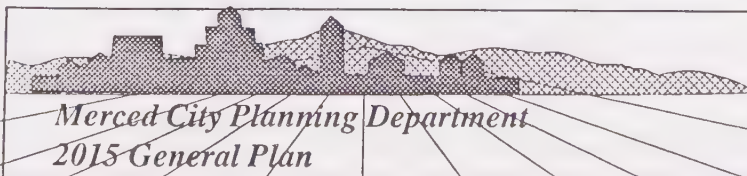
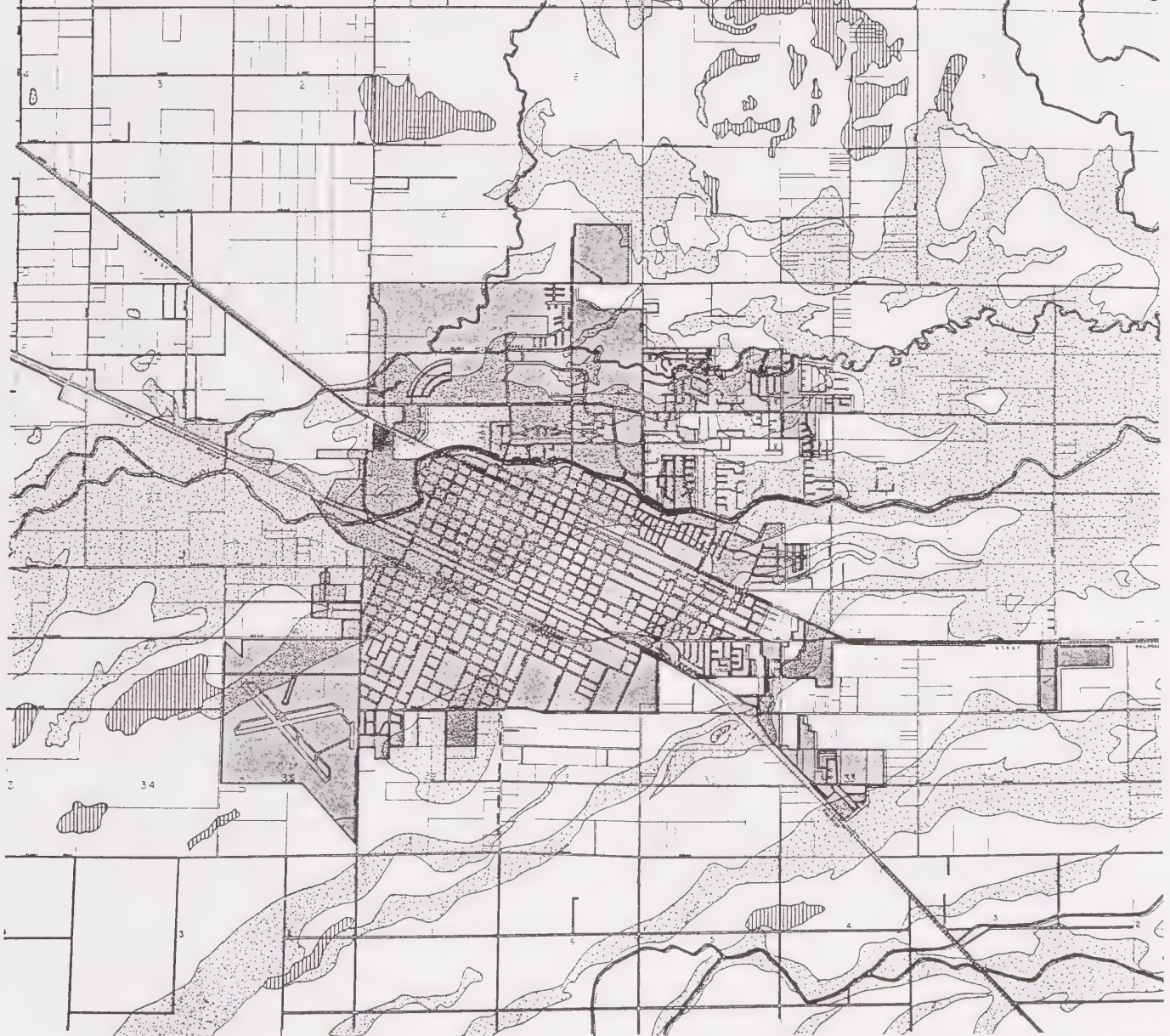


Figure 8.6

Merced Area Soil Capability Groups

Table 8.1

Prime Soils Association Characteristics

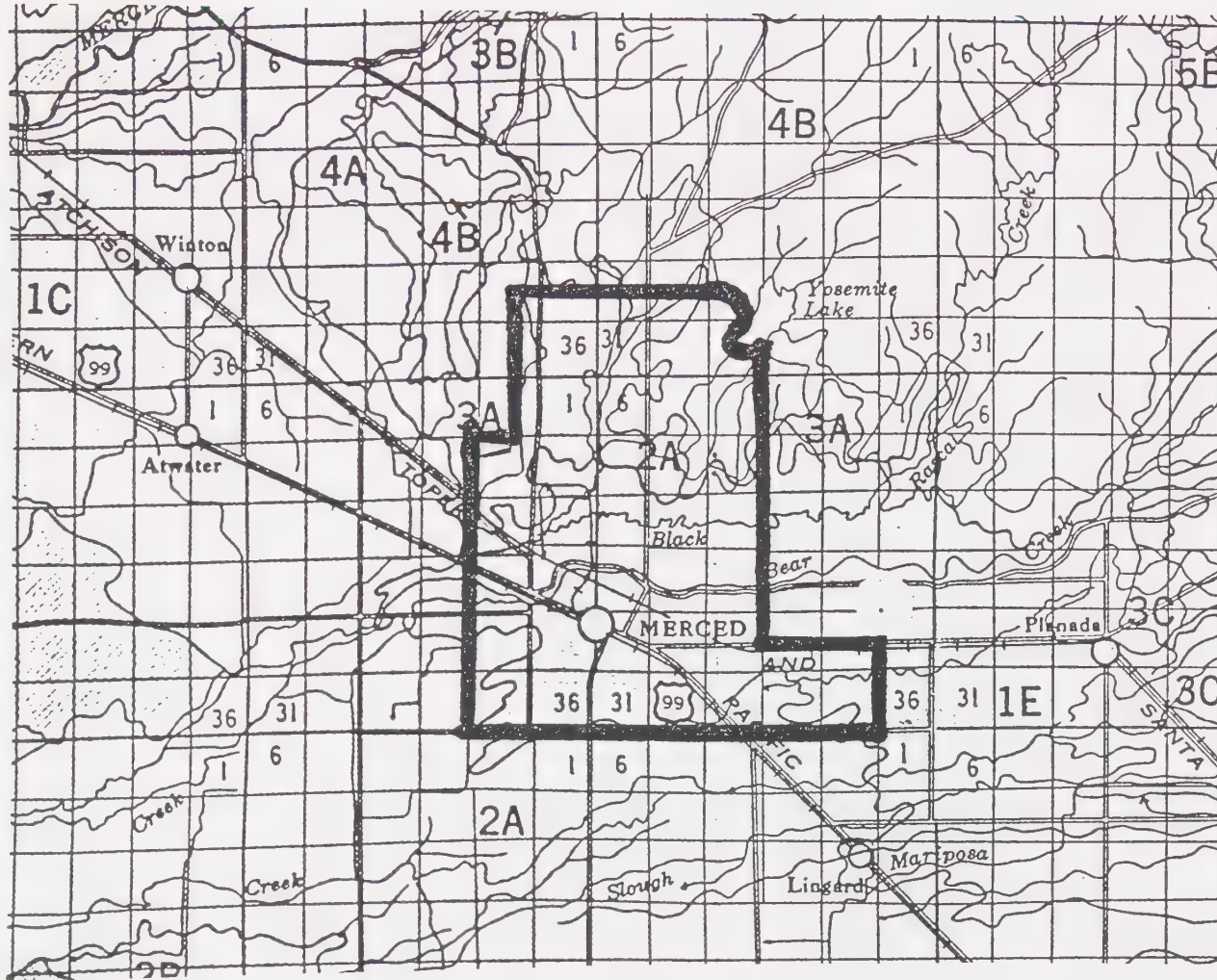
Map Symbol	Name of Soil	Capability Unit	Storie Index	Very Good & Good Crop Suitability
Honcut				
<i>HtA</i>	Honcut silt loam, 0 to 1 % slopes	I-1	100	Alfalfa, cotton, barley, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non-irrigated range.
<i>HuA</i>	Honcut silt loam, deep over hardpan, 0 to 1% slopes	IIs-3	80	Alfalfa, cotton, barley, truck crops, grapes, figs, almonds, peaches, rice, irrigated pasture, non- irrigated range.
<i>HrA</i>	Honcut fine sandy loam, 0 to 1% slopes	I-1	100	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non- irrigated range.
<i>HsA</i>	Honcut gravely sandy loam, 0 to 1% slopes	IIs-4	70	Alfalfa, cotton, barley, grapes, figs, almonds, peaches, irrigated pasture, non-irrigated range.
<i>HwA</i>	Honcut silty clay loam, 0 to 1% slopes	I-1	90	Alfalfa, cotton, barley, truck crops, figs, almonds, rice, irrigated pasture, non-irrigated range.
<i>HxA</i>	Honcut silty clay loam, deep over hardpan, 0 to 1% slopes	IIs-3	72	Alfalfa, cotton, barley, truck crops, figs, almonds, peaches, rice, irrigated pasture, non-irrigated range.
<i>HzA</i>	Honcut silty clay loam, channeled, 0 to 8% slopes	Ile-1	65	Alfalfa, cotton, barley, figs, almonds, irrigated pasture, non-irrigated range.
Yolo				
<i>YdA</i>	Yolo loam, 0 to 1% slopes	I-1	100	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non- irrigated range.
<i>YeA</i>	Yolo loam, deep over hardpan, 0 to 1% slopes	IIs-3	80	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, rice, irrigated pasture, non-irrigated range.

(Page 1 of 2)

Table 8.1 (Continued)

Map Symbol	Name of Soil	Capability Unit	Storie Index	Very Good & Good Crop Suitability
Wyman				
<i>WrA</i>	Wyman loam, 0 to 3% slopes	I-1	95	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non-irrigated range.
<i>WtA</i>	Wyman loam, moderately deep & deep over gravel, 0 to 3% slopes	IIs-3	85	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non-irrigated range.
<i>WsA</i>	Wyman loam, deep over hardpan, 0 to 3% slopes	IIs-3	85	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture.
<i>WoA</i>	Wyman clay loam, 0 to 3% slopes	I-1	81	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, rice, irrigated pasture, non-irrigated range.
<i>WnA</i>	Wyman clay loam, deep over hardpan, 0 to 1% slopes	IIs-3	72	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, rice, irrigated pasture, non-irrigated range.
Ryer				
<i>RtA</i>	Ryer silt loam, 0 to 3% slopes	IIs-7	85	Alfalfa, cotton, barley, sweet potatoes, truck crops, grapes, figs, almonds, peaches, irrigated pasture, non-irrigated range.
<i>RsA</i>	Ryer clay loam, 0 to 3% slopes	IIs-7	77	Alfalfa, cotton, barley, truck crops, figs, almonds, irrigated pasture, non-irrigated range.
<i>RsB</i>	Ryer clay loam 3 to 8 % slopes	IIs-7	69	Barley, grapes, figs.
Burchell				
<i>BgA</i>	Burchell silt loam, 0 to 1% slope	IIw-2	67	Alfalfa, cotton, barley, truck crops, figs, rice, irrigated pasture, non-irrigated range.
<i>BnA</i>	Burchell silty clay loam, 0 to 1% slope	IIw-2	60	Alfalfa, cotton, barley, figs, rice, irrigated pasture, non-irrigated range.

(Page 2 of 2)



SOIL ASSOCIATIONS

Soils of the alluvial fans and flood plains.

- 1A Hanford-Grangeville.
- 1B Pachappa-Grangeville.
- 1C Delhi-Atwater.
- 1D Hiltner Delhi-Dello.
- 1E Wyman Yokohl Marguerite.
- 1F Merced-Temple-Columbia.

Soils of the poorly drained saline-alkali basin.

- 2A Lewis-Landlow-Burchell.
- 2B Fresno-Traver.
- 2C Rossi-Waukena.
- 2D Fresno-Pozo.

Soils of the low terraces.

- 3A San Joaquin-Madera.
- 3B Snelling-Greenfield.
- 3C Porterville-Seville.

Soils of the high terraces.

- 4A Whitney-Rocklin-Montpellier.
- 4B Redding-Pentz-Peters.

Soils of the uplands.

- 5A Amador-Hornitos.
- 5B Auburn-Exchequer-Daulton-Whiterock.

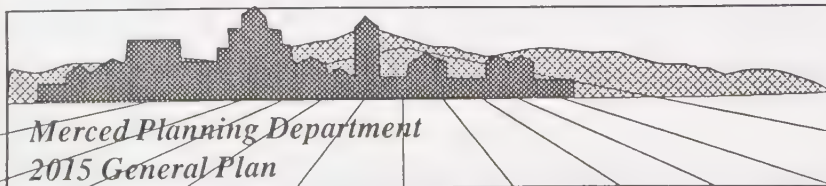
Miscellaneous land types.

- T Tailings.

Merced SUDP

Figure 8.7

Merced Area Soil Association Map



Merced Planning Department
2015 General Plan

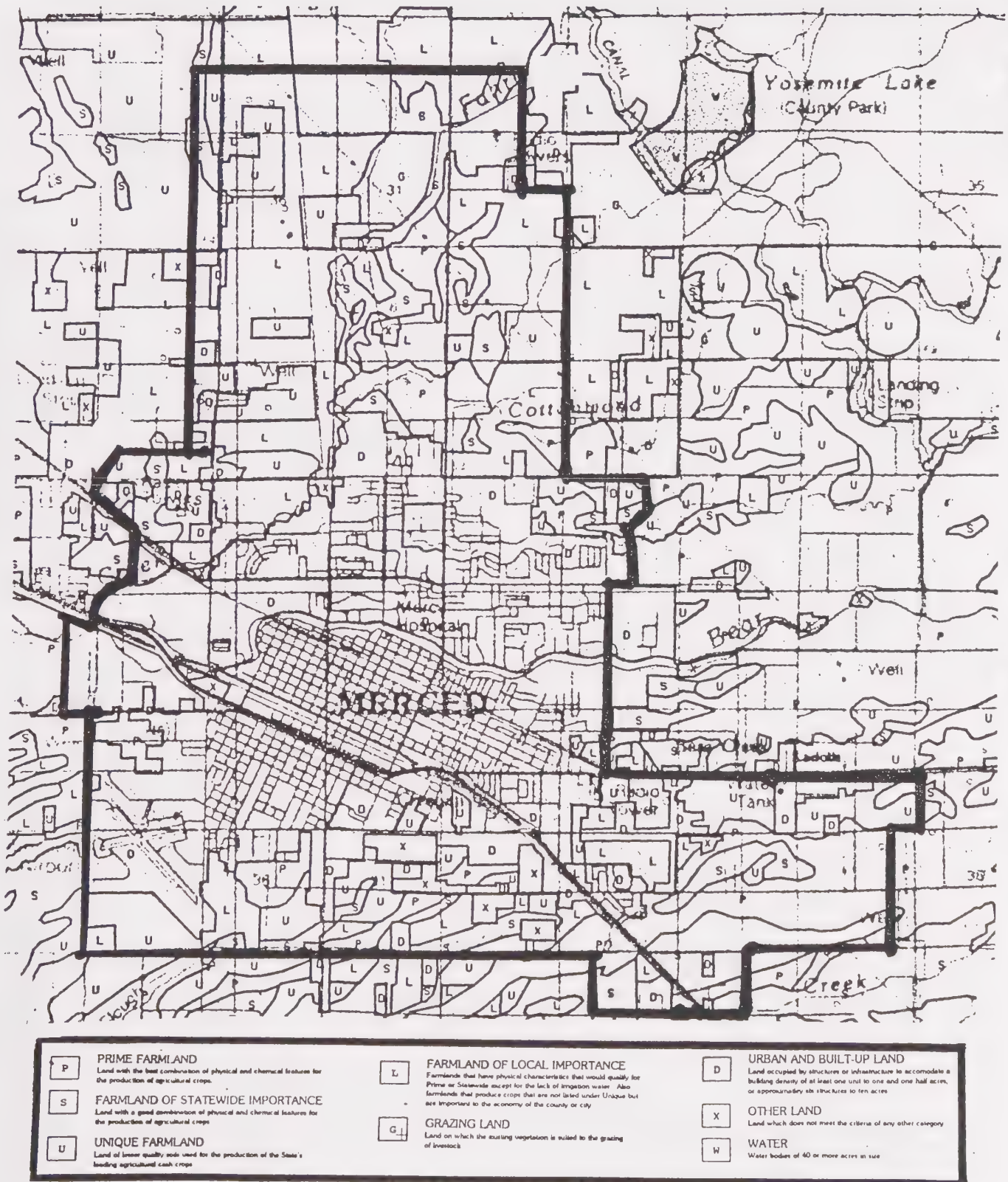
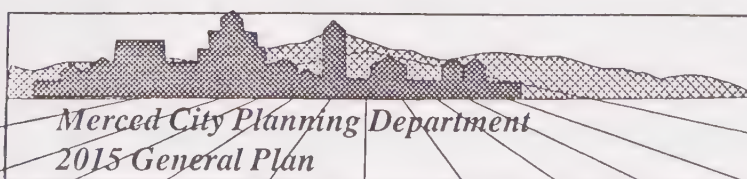


Figure 8.8

**Merced Area
Important Farmland Map**



8.5.2 Merced Area Air Resources

Air Quality Designations & Classifications

The State Air Resources Board and the Federal Environmental Protection Agency have established air pollution standards in an effort to protect human health and welfare. Geographic areas are deemed "attainment" if these standards are met, and "nonattainment" if they are not met. The San Joaquin Valley Air Basin is designated "severe non-attainment" for the state ozone standard and serious non-attainment for federal ozone and fine particulate matter standards (PM₁₀).

The following is a brief description of the air pollutants of greatest importance in the San Joaquin Valley. It provides a description of the physical properties, the health and other effects of the pollutant, the sources of the pollutant, and the extent of the problem.

Ozone (O₃) is what is known as a photochemical pollutant. It is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between reactive organic gases (ROG), oxides of nitrogen (NO_x), and sunlight.

ROG and NO_x are emitted from fuel combustion and agricultural and industrial processes, the sources of which are widespread throughout the Valley. In order to reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors.

Significant O₃ formation generally requires an adequate amount of precursors in the atmosphere and several hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant. It is generated over a large area and is transported and spread by wind.

The worst ozone concentrations tend to be found downwind from emission sources in Valley metropolitan areas, though the Air Resources Board indicates that some of the ozone found in the Valley originates in other air basins



Effects: While ozone in the upper atmosphere protects the earth from harmful ultraviolet radiation, high concentrations of ground level ozone can adversely affect the human respiratory system. Many respiratory ailments, as well as cardiovascular disease, are aggravated by exposure to high ozone levels. Ozone also damages natural ecosystems such as forests and foothill communities, and damages agricultural crops and some man-made materials, such as rubber, paint, and plastics. Ozone has been the San Joaquin Valley's most intractable air quality problem.

Reactive Organic Gases (ROG) also known as volatile organic compounds, are photochemically reactive hydrocarbons that are important for ozone formation. This definition excludes methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonates, methylene chloride, methyl chloroform and various chlorofluorocarbons (CFCs).

Effects: The main concern with ROG is its role in photochemical ozone formation. Some compounds that make up ROG are also toxic. An example is benzene which is a carcinogen.

Sources: The primary sources of ROG are petroleum transfer and storage, mobile sources (such as automobiles), organic solvent use, and miscellaneous processes.

Oxides of Nitrogen (NO_x) are a family of gaseous nitrogen compounds and are precursors to ozone formation. The major component of NO_x, nitrogen dioxide (NO₂), is a reddish-brown gas that is toxic at high concentrations. NO_x results primarily from the combustion of fossil fuels under high temperature and pressure.

Effects: Health effects associated with nitrogen oxides (NO_x) are an increase in the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO₂ may lead to eye and mucus membrane aggravation, along with pulmonary dysfunction. NO_x causes fading of textile dyes and additives, deterioration of cotton and nylon, and corrosion of metals due to production of particulate nitrates. Airborne NO_x can also impair

visibility. NO_x is a major component of acid disposition in California.

Sources: Motor vehicles and industrial and residential fuel combustion are the major sources of this air pollutant, and they emit approximately 56% and 17%, respectively, of the total NO_x released in the Valley. The San Joaquin Valley Air Basin is in attainment of both state and federal NO₂ standards (NO₂ comprises most NO_x). As a chemical precursor involved in ozone formation, however, emissions of NO₂ indirectly contribute to high ozone concentrations in the Valley.

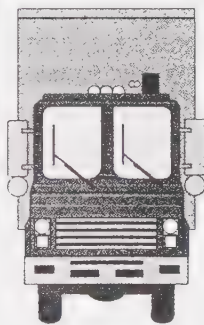


Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). Under most conditions, carbon monoxide does not persist in the atmosphere and is rapidly dispersed. Carbon monoxide excesses are most likely to occur in the winter, when relatively low inversion levels trap pollutants near the ground and concentrate the CO. Since CO is somewhat soluble in water, normal winter conditions of rainfall and fog can suppress CO concentrations. Nevertheless, CO concentrations in the Valley still exceed state and federal standards occasionally, and several urban areas of the Valley are classified as moderate non-attainment for this pollutant.

Effects: Carbon monoxide binds strongly to hemoglobin, the oxygen-carrying protein in blood, and thus reduces the

blood's capacity for carrying oxygen to the heart, brain, and other parts of the body. At high concentrations, CO can cause heart difficulties in people with chronic diseases, can impair mental abilities, and can even cause death.

Sources: The main source of CO in the San Joaquin Valley is motor vehicles. The planning emissions inventory for the San Joaquin Valley Air Basin shows that motor vehicles contribute approximately 70% of total CO emissions. Other CO sources in the Valley include agricultural burning and forest fires, industrial processes, residential wood burning, and fuel combustion from stationary sources. Because most of these CO sources are the indirect result of urban development, most emissions and unhealthy CO levels occur in major urban areas.



Extent of the Problem: Breaches of the carbon monoxide standards are a localized problem. Under most conditions carbon monoxide dissipates readily, however, large urban areas have enough sources to create excessive concentrations under some meteorological conditions. Because of the local nature of CO problems, the Air Resources Board (ARB) and the Environmental Protection Agency (EPA) designate urban areas as CO non-attainment areas instead of the entire basin as with ozone and PM₁₀.

Pollutant: Particulate Matter (PM₁₀)

Suspended particulate matter (airborne dust) consists of particles small enough to remain suspended in the air for long periods. Fine particulate matter (PM₁₀) includes particulates of 10 microns or less in diameter. These particulates are small enough to be inhaled, pass through the respiratory system, and lodge in the lungs, with resultant health effects.

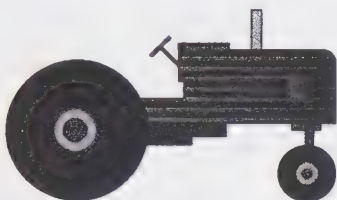
PM₁₀ is comprised of dust, sand, salt spray, metallic and mineral particles, pollen, smoke, mist, and acid fumes. Also of importance are sulfate (SO₄) and nitrates (NO₃) which are secondary particles formed as precipitates from photochemical reactions of gaseous sulfur dioxide (SO₂) and oxides of nitrogen (NO_x) in the atmosphere. The actual composition of PM₁₀ varies greatly with time and location. It depends on the sources of the material and meteorological conditions.

Effects: Acute and chronic health effects associated with high PM₁₀ levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Mortality studies have shown a statistically significant direct association between mortality and daily concentrations of particulate matter in the air. Non-health-related effects include reduced visibility and soiling of buildings.

Sources: Primary man-made sources of PM₁₀ in the San Joaquin Valley are agricultural operations, agricultural burning, demolition and construction activities, entrainment of dust by motor vehicles on paved and unpaved roads, and residential wood burning. Wind erosion of agricultural land also

represents a significant source of airborne dust in the Valley.

Extent of the Problem: Health-based State and federal PM₁₀ standards are frequently exceeded in all areas of the Valley.



Pollutant: Sulfur Dioxide (SO₂) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. SO₂ is known to oxidize and form sulfur trioxide, which combines with moisture in the atmosphere to form a corrosive sulfuric acid mist, which can precipitate as "acid rain."

Effects: Sulfur oxides (SO_x) can damage and irritate lung tissue, can accelerate the corrosion of materials exposed to them, can harm vegetation, and contribute to impaired visibility.

Sources: SO₂ is a by-product of the combustion of sulfur-containing fossil fuels. The sulfur content of fuels varies from fuel to fuel. Coal is typically at the high end of the scale and natural gas at the low end of the scale. Much of the sulfur in oil is removed during the refining process. Sulfur emissions can be minimized from coal combustion by using low sulfur coal, stack scrubbers, and by treating gasified or liquified coal. Most SO₂ in the Valley is from motor vehicles and industrial fuel combustion.

Extent of the Problem: The San Joaquin Valley Air Basin is in attainment of both the federal and California standards.



However, like airborne NO_x, suspended SO_x particles contribute to the poor visibility that sometimes occur in the Valley. These SO_x particles are also a component of PM₁₀. The prevalence of low-sulfur fuel use in the Valley has minimized problems from this pollutant.

Pollutant: Lead (Pb) Lead is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. Lead was used until recently to increase the octane rating in auto fuel.

Effects: The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage; it can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract.

Sources: Gasoline-powered automobile engines were a major source of airborne lead (Pb) through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of Pb have dropped dramatically.

Extent of the Problem: Lead concentrations were last systematically measured in the San Joaquin Valley Air Basin in 1989, when the average concentrations were approximately five percent of the state lead standard. Though monitoring was discontinued in 1990, lead levels are probably well below applicable standards, and the Air Basin is designated in attainment for lead.

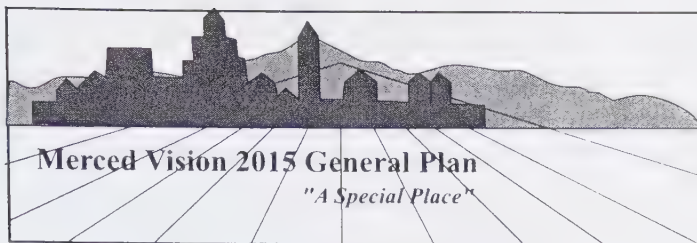
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Prepared by Quad-Knopf of Visalia

(Recommended for Adoption by Merced City Planning Commission on July 23, 2003 by Resolution #2736 and for Revision on May 19, 2004 by Resolution #2772)

(Adopted by Merced City Council on December 15, 2003 by Resolution #2003-154 and for Revision on June 21, 2004 by Resolution #2004-82)



Executive Summary

The Housing Element is one of seven General Plan Elements that is mandated by California State law. It is intended to provide citizens and public officials with an understanding of the housing needs in the community and set forth an integrated set of policies and programs aimed at attaining defined goals.

State Housing Law provides that local agencies may prepare their General Plans to accommodate local conditions and circumstances, while meeting the minimum requirements of the law. Housing program requirements include two primary components: a statement of goals, policies, and objectives, and a plan for implementation. The program must reflect the commitment of the City to address a range of housing needs, including those for affordable housing.

Pursuant to State Housing Law, the Housing Element must be updated every 5 years (§65588) and the required contents are covered in §65580 through §65589. The statute recognizes that a jurisdiction may not have the resources to actually develop all needed housing; however, a jurisdiction is obligated to plan to meet its fair share of regional housing needs.

The projected need for housing is set by the state for each regional Council of Government (COG). The COG in turn allocates fair share housing units based on existing and projected population growth and past trends for the five-year planning period. The assigned units are broken down by income group categories based on the composition of the current population.

Merced's last Housing Element revision was adopted by the Merced City Council on December 21, 1992. The state's scheduled due date for Merced County, and jurisdictions within the County for this planning period of 2003 to 2008, is December 31, 2003.

To determine the present and future housing needs of City residents, and how the City may encourage and participate in providing those needs, the Housing Element process requires a review of the City's existing document to ascertain its effectiveness. Comparative research and analysis is accomplished including present condition of housing stock, demographic changes and trends, available land to accommodate projected growth for all income levels and special needs populations, and a review of constraints – both governmental and non-governmental – that may be mitigated to

allay limitations and unnecessary restrictions on the provision of housing of all types and for all income levels.

Finally an implementation plan is developed to guide the City in meeting its goals. The plan includes recommended programs, anticipated costs, and potential funding resources. Tracking is accomplished through the required Annual Progress Report (§65400) to the City Council and copies submitted to the Governor's Office of Planning and Research and HCD each July. This periodic review also enables the City to determine whether revisions in the Housing Element need to be made between statutory updates.

The City of Merced's housing allocation is 4,666 new housing units over the five-year planning period. Any housing activity approved, in construction, or completed since June 30, 2003, may be reported to demonstrate meeting this allocation.

Some indicators cited in this study include:

Existing housing stock in the City of Merced is in generally good condition. Continued programs of maintenance and individual home repair for units indicating minor and moderate signs of rehabilitation need, will aid in sustaining this condition.

The population of Merced is projected to be approximately 87,713 by 2008, according to the Merced County Association of Governments (MCAG). This is an increase of 7.8 percent from 2003 to 2008.

According to the U.S. Census, Merced's overall vacancy rate in 2000 was 5.1 percent, up from the reported vacancy rate in 1990, which was 3.6 percent.

Census data indicates the median value for an owner-occupied home in 2000 was

\$106,480. The average price for a new 3-bedroom home in Merced was approximately \$180,000 and the average asking price for a 4-bedroom home was \$280,000. Compared to many California communities, home prices in Merced are not high. However, in relation to income levels in the City they are unaffordable.

Based on the research conducted by Quad Knopf, it was determined that adequate residential sites and land inventory exist within the Merced City Limits and master-planned areas being annexed to meet the 4,666 dwelling unit fair share allocation without additional governmental action to increase residential sites within the Sphere Of Influence.

University of California, Merced's campus population projections are estimated to be 1,500 in 2004 – 2005 and 4,793 by 2007 – 2008. At buildout, the campus will provide housing for approximately 50 percent of the student body with the remainder living in Merced and surrounding communities.

The City of Merced's goals from the previous Housing Element remain in tact as follows:

1. New Affordable Housing Construction
2. Housing Conservation and Rehabilitation
3. Housing Affordability
4. City Coordination
5. Quantified Objectives

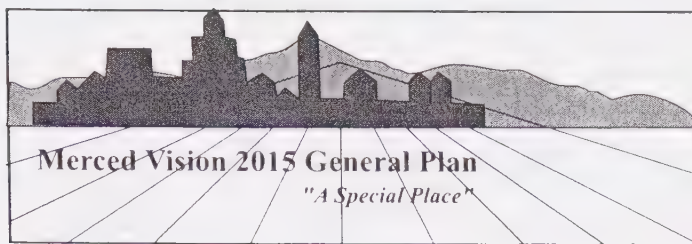
The majority of Action Programs are also maintained. Some of them have been modified or omitted, and new programs have been added. Some of the new programs added to the 2003 Housing Element are as follows:

- Action Program 1.1.a plans the development of a land evaluation survey to identify available sites for the development of multi-family housing.
- Action Program 1.1.d is in response to SB 520. This program establishes one of the City's priorities as that of assistance to disabled persons, providing reasonable accommodation, density bonuses and specific site requirements for group homes.
- Action Program 1.1.f requires the City to establish a Citizens Advisory Committee for the development of an amendment to the Zoning Ordinance regarding inclusionary zoning, with recommended thresholds and parameters for City Council consideration.
- Action Program 1.1.g investigates the ability to provide housing on a preferential basis to Merced workers and residents.
- Action Program 1.7.a requires the City to continue to work with the County and MCAG to implement the Continuum of Care to locate a

permanent homeless shelter in Merced and apply for homeless shelter funding and establish a fund for transitional housing development.

- Action Program 1.8.b requires the City to continue to monitor residential land availability, and to encourage and pursue annexations as necessary to maintain a 10-year supply of zoned vacant residential property.
- Action Program 2.1.b requires the City to conduct a feasibility study to determine the extent of financial or other benefits to housing preservation efforts in the City's core area through the establishment of a Historic District.

The funding resources identified in the Plan include competitive grants, entitlements and Redevelopment Set Aside funds. Although the grant amounts quantified are competitive, the purpose of including them in the Action Plan is to establish a commitment to apply for these grant funds when they may become available. Other funds such as Redevelopment Set Aside and CDBG funds are based on an estimate of previous years' allocations.



Chapter 9

Housing

9.1 INTRODUCTION & OVERVIEW

9.1.1 Scope - Description of Geographic Area

The City of Merced is located approximately 104 miles southeast of Sacramento, 53 miles northwest of Fresno, and 112 miles southeast of San Francisco, in the Central Valley of California (reference Figures 9.1.1 and 9.1.2). Incorporated in 1889, the City of Merced is situated within the eastern section of Merced County and is the largest city in the County. Principal highway access to Merced is via State Highway 99, which runs through the central portion of the City in a general north/south direction. State Highways 140 and 59 also serve the City.

The topography of the community is characterized by flat land approximately 155 - 180 feet in elevation. The local climate is typical of the Central Valley. Average daily temperatures are 48 degrees in January to 95 degrees in July. The summer months are typically dry and hot and the winter months are typically cool with occasional fog. Average annual rainfall is 12 inches,

with January being the wettest month of the year with two inches of precipitation.

The City's Sphere of Influence (SOI) extends somewhat beyond the current City limits. The SOI serves as the City's outer growth ring and is depicted in Figure 9.1.3, and complies with government code 65300 by including lands outside City boundaries, which in the judgment of the City bears relation to its planning.

The UC Planning Area (Figure 9.1.4) is an area surrounding the proposed UC Campus site (northeast of Merced), comprised of approximately 10,000 acres and has been identified by both the City and the County as an area requiring cooperative planning. Since 1978, the "Urban Centered Concept" has been the guiding land use principle for the County. According to the Merced County Year 2000 General Plan, Specific Urban Development Plans (SUDP's) are intended to accommodate all classifications of urban land use (residential, commercial, industrial, and

City of Merced Regional Map



Figure 9.1.2
Merced City Limits

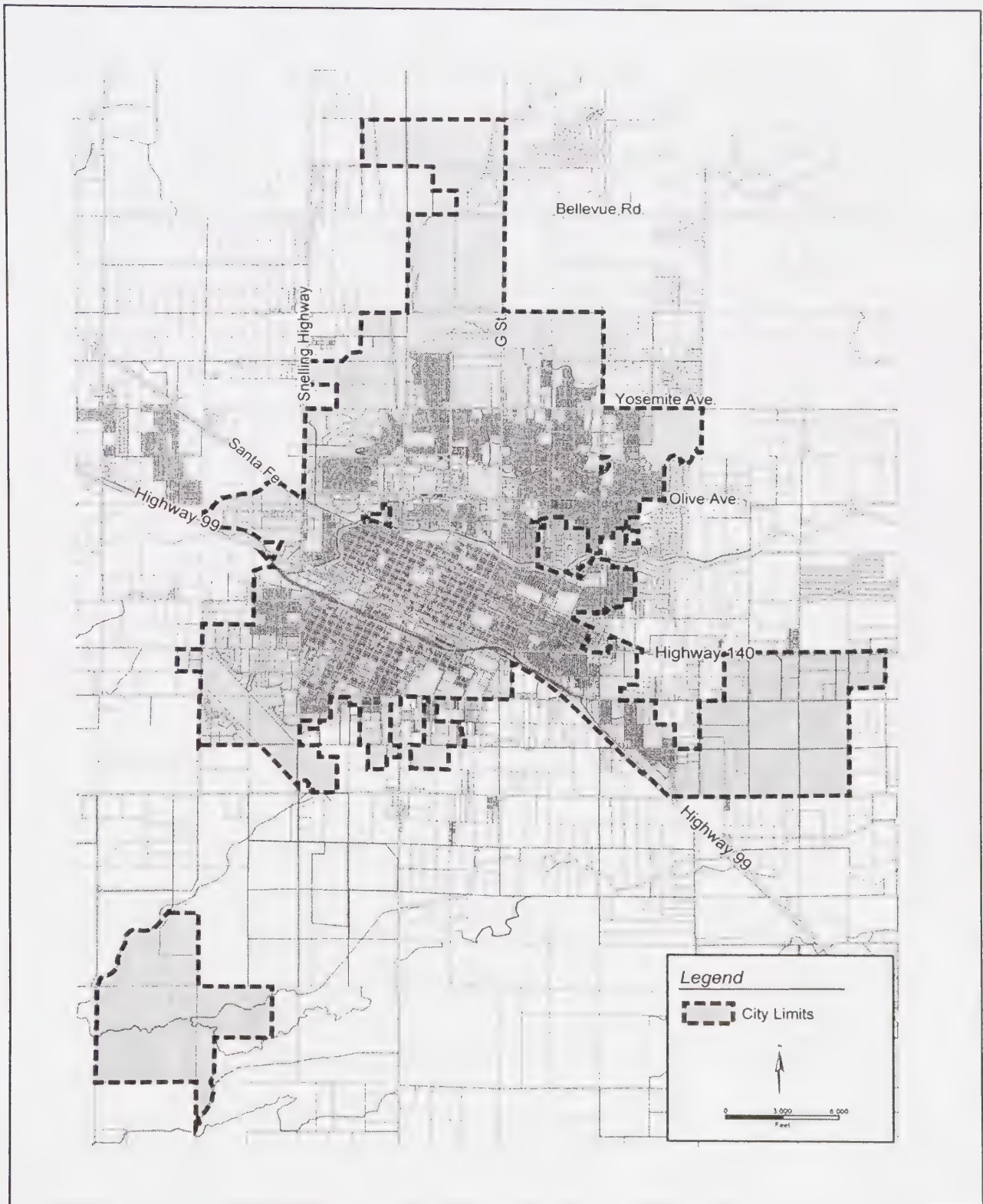


Figure 9.1.3

*City of Merced Sphere of Influence (SOI) and
Specific Urban Development Plan (SUDP)*

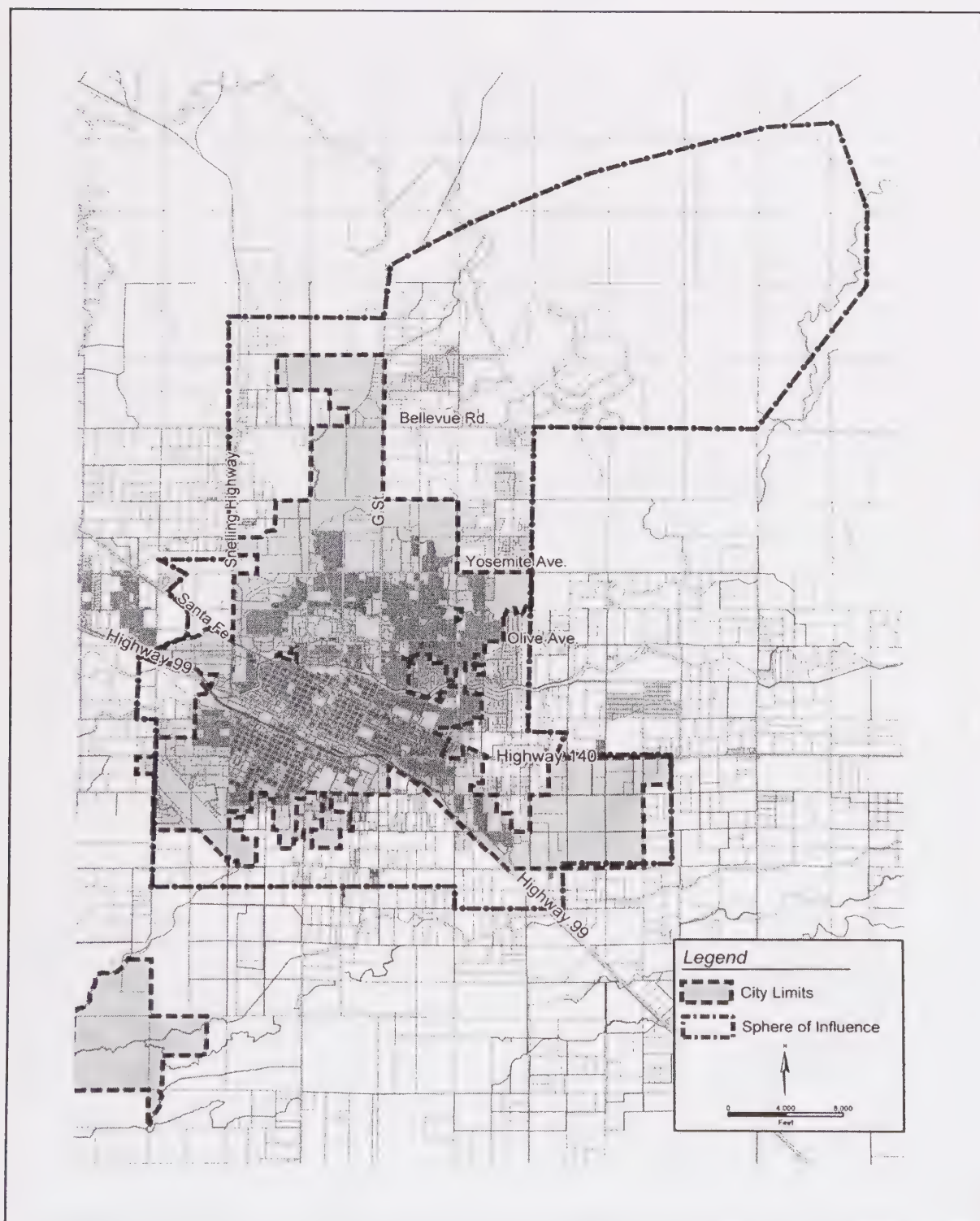
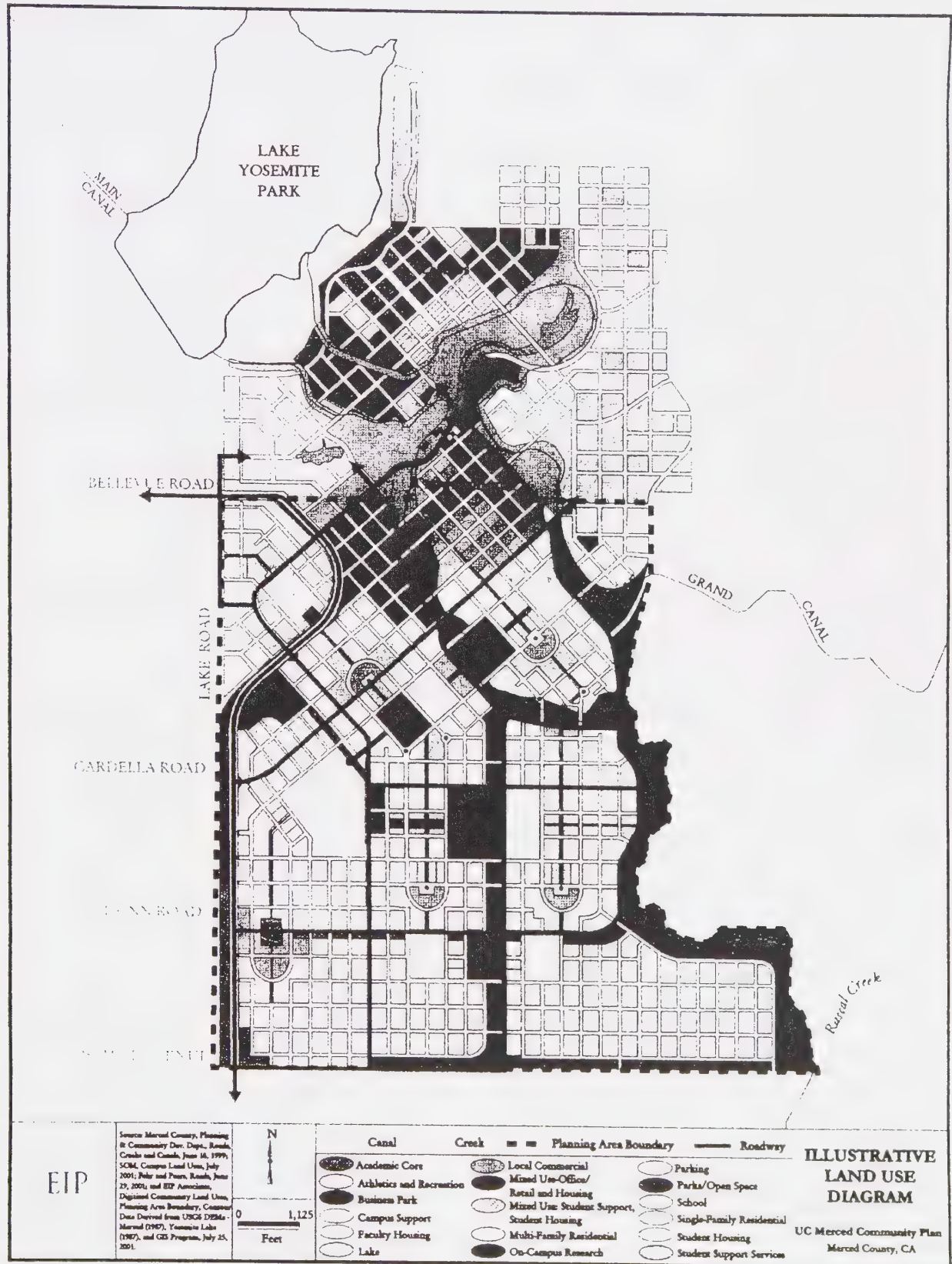


Figure 9.1.4

UC Merced Planning Area



institutional). An SUDP has a boundary line which is recognized as the ultimate growth boundary of the community over the live of the Plan, and all land within the SUDP is planned for eventual development in a mixture of urban and urban-related uses. The City of Merced's SUDP, adopted in 1997, is illustrated in Figure 9.1.3 and contains 20,540 acres.

When the SOI was established in 1997, the UC campus and the adjacent campus community were located northeast of Lake Yosemite and were both included in the City's SOI and designated as a Joint Planning Area. However, in 2001, the location of the UC campus and community shifted to the location as shown in Figure 9.1.4 and now the UC campus itself is still within the City's SOI, but the adjacent University Community is not.

9.1.2 History of Merced

In 1871, the railroad pushed its tracks south through the Valley from San Francisco, and the land which was "uninhabited except for the wild cattle, mustang horses, antelope, elk, and coyotes," became the City of Merced. Established and laid out by the Central Pacific Railroad in 1872, lots sold for very high prices for a new town in the plains. Lots 25 by 150 feet to 50 by 150 feet sold for prices ranging from \$125.00 to \$500.00 per lot. Overnight, the town looked like a new mining camp with tents and board sheds used for accommodations while workmen and carpenters worked to build the town.

The most magnificent achievement in the new town was the County Court House which was dedicated in 1875. Designed in the Roman Corinthian style typical of the era, it is still one of the most impressive buildings in California. It now serves as a

museum and is listed in the National Registry of Historical Places.

Today, Merced has a population of over 63,000 people, is a charter City that operates under the council-manager form of government, and offers a rich and varied living environment with a unique blend of old and new.

9.1.3 Housing Element Intent

The Housing Element is one of seven General Plan Elements that is mandated by California State Law. It is intended to provide citizens and public officials with an understanding of the housing needs in the community and to set forth an integrated set of policies and programs aimed at the attainment of defined goals. More specifically, the function of the Housing Element is to:

- 1) Provide comprehensive housing-related information through the compilation of data from numerous sources;
- 2) Provide an estimate of present and future housing needs and constraints by examining population characteristics and growth trends, as well as the current condition of the housing stock;
- 3) Act as a tool for coordination between governmental bodies and the local building industry;
- 4) Provide direction for future planning programs to ensure that sufficient consideration is given to housing goals and policies;
- 5) Establish and portray community goals and policies relative to housing through the identification of existing stated and implicit goals and the identification of housing needs and problems;

- 6) Establish and identify programs intended to attain and implement the community's goals and policies, taking the feasibility of those programs into account; and
- 7) Act as a meaningful guide to decision-makers considering housing-related issues.

According to California Government Code Section 65581, it is the intent of the Legislature in enacting Housing Element Law:

- (a) To assure that counties and cities recognize their responsibilities in contributing to the attainment of the State housing goal.
- (b) To assure that counties and cities will prepare and implement housing elements which, along with federal and state programs, will move toward attainment of the state housing goal.
- (c) To recognize that each locality is best capable of determining what efforts are required by it to contribute to the attainment of the state housing goal, provided such a determination is compatible with the state housing goal and regional housing needs.
- (d) To ensure that each local government cooperates with other local governments in order to address regional housing needs.

9.1.4 Current State Housing Element Law

State law recognizes the vital role local governments play in the supply and affordability of housing. Each governing body (City Council or Board of Supervisors) of a local government in California is

required to adopt a comprehensive, long-term general plan for the physical development of the city, city and county, or county. The Housing Element is one of the seven mandated elements of the local general plan. Housing Element law, enacted in 1969, mandates that local governments adequately plan to meet the existing and projected housing needs of all economic segments of the community. The law acknowledges that, in order for the private market to adequately address housing needs and demand, local governments must adopt land use plans and regulatory systems which provide opportunities for, and do not unduly constrain, housing development. As a result, housing policy in the State rests largely upon the effective implementation of local general plans and, in particular, local housing elements. Housing Element law also requires elements to be in compliance with State law and to report the written findings to the local government.

Current state law delineating Housing Element requirements is found in California Government Code Sections 65580 through 65589.8, Section 1143, Article 10.6. The law is administered by the State Department of Housing and Community Development (HCD).

Section 65583 states, "The Housing Element shall consist of an identification and analysis of existing and projected housing needs and a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the preservation, improvement, and development of housing. The housing element shall identify adequate sites for housing, including rental housing, factory-built housing, and mobile homes, and shall make adequate provision for the existing and projected needs of all economic segments of the community". The Housing Element shall contain the following:

(a) An assessment of housing needs and an inventory of resources and constraints relevant to the meeting of these needs. The assessment and inventory shall include all of the following:

- (1) An analysis of population and employment trends and documentation of projections and a quantification of the locality's existing and projected housing needs for all income levels. These existing and projected needs shall include the locality's share of the regional housing needs in accordance with Section 65584.
- (2) An analysis and documentation of household characteristics, including level of payment compared to ability to pay, housing characteristics, including overcrowding, and housing stock condition.
- (3) An inventory of land suitable for residential development, including vacant sites and sites having potential for redevelopment, and an analysis of the relationship of zoning and public facilities and services to these sites.
- (4) An analysis of potential and actual governmental constraints upon the maintenance, improvement, or development of housing for all income levels and for persons with disabilities as identified in the analysis pursuant to paragraph (6), including land use controls, building codes and their enforcement, site improvements, fees and other exactions required of developers, and local processing and permit procedures. The analysis shall also demonstrate local efforts to remove

governmental constraints that hinder the locality from meeting its share of the regional housing need in accordance with Section 65584 and from meeting the need for housing for persons with disabilities identified pursuant to paragraph (6).

- (5) An analysis of potential and actual nongovernmental constraints upon the maintenance, improvement, or development of housing for all income levels, including the availability of financing, the price of land, and the cost of construction.
- (6) An analysis of any special housing needs, such as those of the elderly, persons with disabilities, large families, farm workers, families with female heads of households, and families and persons in need of emergency shelter.
- (7) An analysis of opportunities for energy conservation with respect to residential development.

An analysis of existing assisted housing developments that are eligible to change from low-income housing uses during the next 10 years due to termination of subsidy contracts, mortgage prepayment, or expiration of restrictions on use. "Assisted housing developments," for the purpose of this section, shall mean multifamily rental housing that receives governmental assistance under federal programs listed in subdivision (a) of Section 65863.10, state and local multifamily revenue bond programs, local redevelopment programs, the federal Community Development Block Grant Program, or local in-lieu fees. "Assisted

housing developments” shall also include multifamily rental housing units that were developed pursuant to a local inclusionary housing program or used to qualify for a density bonus pursuant to Section 65916.

9.1.5 State Required Local Program Strategy

Housing program requirements call for development of a local housing program strategy consisting of two primary components; a statement of goals, policies and priorities, and a plan for implementation. This program must reflect the commitment of the locality to address a range of housing needs, including those for affordable housing.

9.1.6 Scope of Research and Analysis

Housing Elements are generally made up of two components. The first consists of an evaluation of the housing needs and opportunities of the community. In preparing this component of the Element several different types of data are examined. First, basic socioeconomic data is analyzed to describe the people of the community and their housing needs. Special emphasis is given in the analysis to groups with unique housing needs: handicapped, the elderly, large families, farm workers, families with female heads of households, and families and persons in need of emergency shelter.

Next, the existing housing stock of the community is examined. Included is an analysis of the condition of the community's housing stock, the availability of units to serve all types of families and the availability of units to serve all income levels. The third section is a study of the potential for development of new housing within the community. This includes data

on vacant or underutilized residentially zoned property, potential for redevelopment, and potential housing development on other types of property.

Next, an analysis of the factors that constrain the development of new housing is carried out. Included are governmental constraints (land use controls, building codes, development application procedures and fees, and infrastructure availability) and nongovernmental constraints (availability of financing, price of land, and cost of construction). In addition, the state requires all jurisdictions to address opportunities for energy conservation in this component of the Housing Element.

The second component of the Housing Element is a course of action which includes a description of the programs the jurisdiction anticipates undertaking to provide for its housing needs. Usually, this component includes a quantified assessment of the communities housing needs. Once those needs have been identified, housing goals and policies are set. Each jurisdiction is required to include a housing program that does the following:

1. Identifies adequate sites to meet housing needs;
2. Assists development of low- and moderate-income housing;
3. Addresses identified and potential governmental and nongovernmental constraints;
4. Conserves and improves the existing housing stock;
5. Promotes equal housing opportunities; and

6. Provides programs to meet other identified housing needs.

The housing program must include quantified objectives, identify the individuals or agencies responsible for carrying out the program and propose an implementation schedule. This Element also includes potential funding resources in support of implementation.

9.1.7 Organization of the Housing Element

Section 9.1 states the relationship of the General Plan Housing Element to California State Law. It also states the overall intent of the Housing Element, establishes the geographic boundaries of the project area and provides an overview of the organization of the 2003 Housing Element.

Section 9.2 reviews and evaluates the previous Housing Element's goals, objectives, policies and programs related to the effectiveness of the Element, appropriateness of the goals, objectives and policies, and the progress in implementing the programs. Determinations are made where the previous Housing Element met, exceeded, or fell short of what was anticipated. Recommendations are made for inclusion in the 2003 Element.

Section 9.3 discusses changes in population characteristics, housing stock, describes and quantifies priority housing needs, and identifies types of housing products to meet those needs.

Section 9.4 discusses land that is available for housing development and the City infrastructure capacity.

Section 9.5 describes market, governmental and non-governmental constraints that may

limit adequate housing development or availability at an affordable cost.

Section 9.6 identifies goals, policies and programs relative to the housing needs identified in previous sections.

Section 9.7 outlines the various programs that will comprise the Implementation Plan for the 2003-2008 Housing Element, and provides a financial analysis of recommended programs.

9.1.8 Relationship of the Housing Element to Other Plans

Several plans exist in addition to the Housing Element that affect either directly or indirectly the development of housing. These include the other Elements of the City's General Plan. The following section describes the relationship between the Housing Element and other plans.

The General Plan

California Government Code requires that general plans contain an integrated, internally consistent set of policies. When any one element of the general plan is revised, and particularly when new policies and priorities are proposed, the other elements must be reviewed to ensure that internal consistency is maintained. During preparation of the Housing Element, such a review was carried out by Quad Knopf (project consultant) who determined that the revised Housing Element was consistent with the rest of the General Plan. The following paragraphs outline the relationship of the Housing Element and its policies to other elements of the City of Merced's adopted 2015 General Plan.

Land Use. The Housing Element is most affected by development policies contained

in the Land Use Element of the General Plan. The Land Use Element establishes the location, type, intensity, and distribution of land uses throughout the City. As such, the Land Use Element sets the upper limit of acreage which will be used for housing. The standards set in the Land Use Element determine the density to which residential areas can be developed and so sets the upper limit for the number of housing units which can be developed in the City. The Land Use Element also addresses the development of other land uses such as industrial, commercial and professional offices which create demand for housing in the City. Finally, the Land Use Element must also identify areas subject to flooding.

Transportation and Circulation. The Transportation and Circulation Element describes the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities. The purposes of the Element are to coordinate the transportation and circulation system with planned land uses; promote the efficient transport of goods and the safe, effective movement of all segments of the population; make efficient use of existing transportation facilities; promote and protect environmental quality; and the wise and equitable use of economic and natural resources. In carrying out these purposes, the Transportation and Circulation Element attempts to create a convenient living environment for residents of Merced.

Open Space, Conservation, and Recreation. The purposes of the Open Space, Conservation and Recreation Elements are to: assure that open space be recognized as a scarce resource to be preserved; discourage “leapfrog”

development and thereby eliminate or discourage unnecessary increases in the cost of community services; coordinate state and regional conservation plans at the local level; preserve unique or strategic natural resources for future generations; and, preserve land uniquely suited to the production of food and fiber. The interrelationship between the Open Space, Conservation and Recreation Element and other elements of the General Plan is one of the clearest. Among other things, state law specifies that building permits, subdivision maps or other projects may not be approved if they are not consistent with the Open Space, Conservation and Recreation Element. In addition, the Element can also require dedication of land or payment of in-lieu fees to provide needed open space. These policies can both decrease the availability of housing and increase the cost of residential development.

Noise. The purpose of the Noise Element is to identify the location and relative intensity of noise in the environment and to identify land use policies and other controls to restrict the exposure of sensitive receptors to excessive levels of ambient noise. Policies exist in the Noise Element which limit the development of residential land uses to areas of existing or projected noise levels less than 65 dB(A). In areas where this is not possible, proposed residential uses are required to include noise attenuation features that reduce the level of interior ambient noise to a maximum of 45 dB(A). These policies will mitigate the impact of noise sources on residential development and create a more pleasant living environment in the City. However, they also decrease the land available for residential development and increase the cost of construction.

Safety Element. The Safety Element of the General Plan identifies hazards to the public safety and appropriate mitigation measures to mitigate, to the fullest degree possible, the loss of property and life resulting therefrom. The Safety Element identifies hazards related to fire, geologic hazards, crime and storage of hazardous materials. The Safety Element identifies hazards resulting from earthquake activity, and appropriate mitigation measures. The effect of the Safety Element on the Housing Element is an indirect one related to the increase in cost of housing due to the required mitigation measures.

Other Plans

University of California (UC) Community Plan. The UC Merced Economics Background Report, March 2000, was developed as a basis for the University Community Plan. This Plan encompasses the lands surrounding the UC Merced Campus. Projected impacts of the new UC Merced Campus pursuant to housing are related in this document.

9.1.9 Application and Flexibility of the Document

This Housing Element is a dynamic document that may be subject to change as a result of significant shifts in demographics and/or housing needs during the planning period. It is the intent of the City of Merced to achieve the fair share allocation and estimated quantified objectives through the implementation of some or all of the Housing Element programs, as deemed appropriate by the City staff and City Council. The City will monitor implementation on an annual basis and make appropriate adjustments over the next five years. Specific possible programs are identified that would achieve the desired

objectives; however, the City recognizes that funding and resource allocations may change over the planning period and other options may need to be explored to achieve the identified goals.

9.1.10 Public Participation

A broad community commitment is essential to the City's ability to establish and carry out programs addressing local housing issues. Accordingly, a key objective of the Housing Element is to increase the public's awareness of the specific housing related needs and problems of the community, as well as programs and projects which will effectively meet those needs. The adoption of this Housing Element is only one step towards ensuring the provision of suitable housing for all residents of Merced. Continued pursuit of the programs and projects set forth in this Element must take the form of active participation by both the public and private sectors in a variety of projects addressing local housing needs.

Section 65583(c)(6)(B) of the Government Code states that "The local government shall make a diligent effort to achieve public participation of all economic segments of the community in the development of the Housing Element, and the program shall describe this effort."

Preparation of the Housing Element included a Housing Task Force Committee comprised of special housing interest groups, Planning Commission and City Council members, and the general public. The Housing Task Force Committee held four public meetings from April to July 2003 and the Planning Commission and City Council each held publicly noticed meetings to discuss the previous element, current housing issues, and potential programs.

Appropriateness and effectiveness of the existing goals and policies along with progress in implementation were discussed. Recommendations were made to keep, eliminate or modify various goals, policies and housing programs. Opportunities and constraints were discussed and special housing needs in the community were identified. Planning Commission and City Council reviewed and discussed a list of potential housing programs and active plans.

The public had an opportunity to review the draft document and make comments to ensure all housing concerns in the community were included and addressed. The Housing Element Task Force Committee reviewed the 2003 Housing Element and recommended approval to the Planning Commission and City Council. Public Hearings will be held before each of

these governmental bodies for formal adoption.

9.1.11 Sources of Information

Several sources of information have been used to document recent demographic and housing trends in Merced. Data from the 1990 and 2000 U.S. Census were used for comparative purposes for many of the tables in this report. Other sources of data include the State Department of Finance (DOF), Employment Development Department (EDD), the Merced County Association of Governments (MCAG), the County of Merced and City General Plan Elements.

Staff members of the City Planning Department and Housing Program Division also contributed to the completion of this document and provided much of the valuable information.

9.2 EVALUATION OF THE 1992 HOUSING ELEMENT

The City's current Housing Element was adopted in 1992. Since State law requires updates of the housing element every 5 years, the Housing Element was scheduled to be updated in 1998. However, the State Legislature approved extensions in 1993 and 1995 and issued a new update schedule in 1996. The City's Housing Element now must be updated no later than December 31, 2003.

The City of Merced has reviewed and evaluated the 1992 Housing Element pursuant to Government Code Section 65588, which states that each local government shall review its housing element as frequently as appropriate to evaluate all of the following:

Section 65588 (a)(1): "Appropriateness of goals, objectives and policies in contributing to the attainment of the state housing goal" – Based on the above analysis, a determination has been made to keep the program as is, modify or eliminate the program. A description is given regarding the changes or modifications to the program

that are being made in this 2003 Housing Element.

Section 65588 (a)(2): "Effectiveness of the housing element in attainment of the community's housing goals and objectives" - The City of Merced has reviewed the results of the previous element's goals, objectives, policies and programs. The results are quantified and/or qualified when possible.

Section 65588 (a)(3): "Progress of the City in implementation of the housing element" - The City of Merced has compared what was projected or planned in the previous element and made a determination on whether the program has been successful, unsuccessful or neutral in achieving the previous element's stated goals, objectives and policies.

9.2.1 Effectiveness of the Previous Housing Element

The 1992 Housing Element program strategy focused on the accomplishment of policies and objectives and implementation of goals in the five categories shown in Table 9.2.1:

Table 9.2.1

City of Merced 1992 Housing Element

GOALS

Goal H-1

New Affordable Housing Construction

- Increase the stock of affordable housing for very low, low, and moderate income households
- Encourage a mix of housing throughout the city to meet the needs of different income groups
- Encourage the construction of housing and facilities to meet special needs, including farm workers, homeless, large families, seniors, and people with physical or mental disabilities

Goal H-2

Housing Conservation and Rehabilitation

- Ensure quality affordable housing through the conservation and rehabilitation of the existing housing stock

Goal H-3

Housing Affordability

- Increase homeownership opportunities for low and moderate income groups
- Provide financial assistance as needed to very low and low income renter households

Goal H-4

City Coordination

- Coordinate innovative housing efforts with private and nonprofit developers as well as other jurisdictions and city departments
- Ensure accountability and success of the housing action plan

Goal H-5

Quantified Objectives

QUANTIFIED OBJECTIVES (1992-1997)

Income Category	New Construction	Rehabilitation	Conservation
<i>Very Low Income</i>	160	125	525
<i>Low Income</i>	245	100	235
<i>Moderate Income</i>	265	50	50
<i>Above Mod. Income</i>	3058	0	0

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POLICY/ ACTION #	POLICY/ACTION	RESPONSIBLE AGENCY	ACCOMPLISHMENTS SINCE 1992	HAS THIS BEEN A SUCCESSFUL ACTION/POLICY FROM 1992-2000 – WHY?	KEEP, ELIMINATE OR MODIFY THE ACTION/POLICY FOR THE NEW HOUSING ELEMENT?	HOW WOULD YOU EDIT THE ACTION/POLICY TO MAKE IT MORE SUCCESSFUL? (EXAMPLES)
POLICY H-1.1 SUPPORT INCREASED DENSITIES IN RESIDENTIAL AREAS.						
1.1.a Evaluate Residential Densities Through the General Plan Process.	Conduct an evaluation of residential densities during the update of the City's General Plan Land Use Element to identify areas where densities might be increased to encourage affordable housing and respond to the goals of the General Plan. In particular, density increases should be considered in residential areas that are: 1) within one-quarter mile of school facilities, retail areas, or employment districts; or 2) within three city blocks of major arterials and public transportation routes. Density increase recommendations must take into consideration potential impacts on other facilities and services, including sewers, fire and police protection, and schools. As an end result, the density evaluation should strive to achieve an equal percent distribution of residential zoning districts between North, Central, and South areas of the City. In particular, the City shall seek to rezone areas from R-3 to R-4 to ensure that there is adequate land available to accommodate the development of low and very low-income housing.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> An evaluation of residential densities was conducted during the City's General Plan update in April 1997, and no changes in R-3 and R-4 were recommended. Other objectives of this policy were addressed through the adoption of the "Village Residential" land use category requiring a 10 units/acre minimum density and the designation of mixed-use "Villages" throughout the City's SUDP. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Modify the action to revisit the feasibility of rezoning R-3 areas to R-4. Must also determine whether such a change would be burdensome to existing infrastructure, parking, or other constraints in R-3 areas.
1.1.b Promote Use of Residential Planned Development Zoning Designation.	As part of the General Plan Update, promote the application of Residential Planned Development designations in areas of new development to encourage innovative site planning and clustered housing design.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> 7 RP-D's established since 1992 resulting in over 200 units. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Consider program for builders and developers information night – regarding what's available in programs and designations. Add set percentage in RPD designation for open space; consider quality of life. Restate as "allow" or "assist expeditious process" rather than "promote".

POLICY/ ACTION #	POLICY/ACTION	RESPONSIBLE AGENCY	ACCOMPLISHMENTS SINCE 1992	HAS THIS BEEN A SUCCESSFUL ACTION/POLICY FROM 1992-2000 – WHY?	KEEP, ELIMINATE OR MODIFY THE ACTION/POLICY FOR THE NEW HOUSING ELEMENT?	HOW WOULD YOU EDIT THE ACTION/POLICY TO MAKE IT MORE SUCCESSFUL? (EXAMPLES)
1.1.c Review Minimum Area Requirements for RPD Districts.	To support innovative site planning and affordable housing construction, the City should review its Zoning Ordinance policies for Residential Planned Development districts to remove the minimum area requirements. The City might condition reduction or removal of requirements for the provision of affordable housing as part of the Affordable Housing Ordinance (policy H-1.3).	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • Zoning Ordinance Amendment (ZOA) #92-02 adopted 8/2/93, reduced area requirements from 2.5 to 1 acre. Made more property available for residential development. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Most affordable housing customers have large families; space favored. Add available land and preserve R-1-5. ▪ Add program to review and update City Zoning Ordinance.
1.1.d Encourage Mixed Use Development Downtown.	Encourage mixed-use residential/office/retail approaches to new development in the City's downtown area to support both affordable housing and economic development goals.	Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council.	<ul style="list-style-type: none"> • "The Lofts" project approved in 2002 and expected to be completed in 2003 will add 14 live/work lofts over retail space at Main & Canal (in heart of downtown). 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Modified program should read that such use be encouraged in core and other appropriate commercial centers. ▪ Consider affordable housing downtown.
1.1.e Review Maximum Lot Coverage for R- 1-5, R-2, and R-3 Districts.	To support the construction of large-family housing on smaller, less expensive lots, the City should consider allowing increased lot coverage in R-1-5 Districts. Through the mechanisms of the Affordable Housing Ordinance (Policy H-1.3), the City could allow, for example, an increase from 40% to 50%, with setback requirements reduced to 15 feet, when units are guaranteed at rates affordable to low and moderate income families. In R-2 and R-3 districts, the City might consider increasing lot coverage to 60%.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • ZOA #99-04 approved 9/20/99 increased lot coverage for R-1-6 lots from 40% to 45%. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ ZOA #99-04 also proposed increase for R-1-5 from 50% to 55%, which was denied by Council; ZOA #00-01 proposed to reduce front yard setback from 20 to 15 feet was denied by Council in Oct. 2000. ▪ This policy has not received support with residents, decision-makers, or builders. R-1-5 rules are not limiting affordable housing development – lack of land is.
1.1.f Review R-2 District Requirements	For eligible projects under the City's Affordable Housing Ordinance, the City should consider reducing the required lot area for R-2 Districts to 5,000 square feet, with the area per dwelling unit requirement reduced accordingly to 2,500 square feet. In addition, the City should consider	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • No actions taken. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Not a quantitative objective. Voted to eliminate or add more detail, such as MF Residences up to 4 or 6 units without CUP, and

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POLICY/ ACTION #	POLICY/ACTION	RESPONSIBLE AGENCY	ACCOMPLISHMENTS SINCE 1992	HAS THIS BEEN A SUCCESSFUL ACTION/POLICY FROM 1992-2000 – WHY?	KEEP, ELIMINATE OR MODIFY THE ACTION/POLICY FOR THE NEW HOUSING ELEMENT?	HOW WOULD YOU EDIT THE ACTION/POLICY TO MAKE IT MORE SUCCESSFUL? (EXAMPLES)
	revising the conditional use requirements for multi-family construction to allow the construction of four units on lots of 10,000 square feet or more.					get rid of Action of "should consider" verbiage.
1.1.g Allow Subdivision of Deep Lots	To support innovative site planning and affordable housing construction, the City should consider revising the Zoning Ordinance to permit the subdivision of deep lots (e.g., a lot 50' x 150' into 2 lots 50' x 75') that stretch between the two points of access (e.g., two roadways or a roadway and an alley), for eligible projects of access under the Affordable Housing Ordinance. This would allow the construction of two single family dwellings with land cost split between them.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • ZOA #92-05 approved 3/1/93 to allow subdivision of 50-foot wide lots where predominant pattern is for such lots (100' x 75' lots in Central & South Merced); • No other actions taken. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Not a limiting factor. ▪ Objective was achieved.
POLICY H-1.2 Review Design Standards To Support Affordable Housing						
1.2.a Review Water and Sewer Pipe Requirements.	Support the review by both the City and the Building Industry Association of standard specification requirements for water and sanitary sewer pipes. Through the process, identify potential revisions in material and size requirements that could reduce construction costs without endangering the quality or capacity of service.	Planning, Public Works, Fire and Police Departments, Planning Commission, and City Council.	<ul style="list-style-type: none"> • Changes were made to City Design Standards circa 1995-2000; • Ongoing discussions w/ BIA on a regular basis help keep standards current. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Ongoing discussion advantageous. Program to review again in 4 years for another potential update. ▪ These costs are not impacts; efficiency good. ▪ Combine 1.2.a and 1.2.b
1.2.b Review Street Width Requirements and Classification Procedures.	In conjunction with the Building Industry Association, review street width requirements for residential subdivisions in the City. In particular, focus on street classification procedures and exploration of alternatives for reducing off-site improvement costs for new housing developments. Potential width reductions or altered street classification procedures shall then be extended to residential subdivision proposals which guarantee 20 percent or more of the units to be constructed at below-market rents or sales prices (as part of the proposed Affordable Housing Ordinance).	Planning, Public Works, Fire and Police Departments, Planning Commission, and City Council.	<ul style="list-style-type: none"> • With 1997 adoption of General Plan, adopted reduced standards for collector, local, & cul-de-sac streets for all residential. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Modify policy to reflect that deviations from standards can also be granted by the Planning Commission through the Tentative Subdivision Map process. ▪ Modify to eliminate references to Affordable Housing Ordinance

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Policy H-1.3 Develop and Implement an Affordable Housing Ordinance						
1.3.a Adopt an Affordable Housing Ordinance.	<p>Develop and adopt an Affordable Housing Ordinance to provide incentives for development of low to moderate income housing. The ordinance would detail the conditions under which certain benefits would accrue to developers of projects that include below market rate units to be sold or rented to persons of low to moderate income. Examples of potential incentives include:</p> <p>Density Bonuses. To decrease the per-unit costs of the development, the City could provide a density bonus for eligible projects. Density increases could be provided through several of the programs described in Policy H-1.1, namely H-1.1.f (reduced lot sizes for R-2 districts) and H-1.1.g (subdivision of deep lots). The City might also allow increased lot coverage for affordable large-family developments (as described in H-1.1e). Alternately, a percentage bonus (e.g., 20% greater than that allowed under the designated zoning), could be offered. For example, a development site of 90,000 square feet could accommodate 15 units under R-1-6 zoning. With density bonus, the site would accommodate 18 units (at 5,000 s.f. per unit).</p> <p>Fee Deferment. To reduce the “carrying costs” of the project, the City could provide a deferment for payment of permit and development fees through the duration of the project’s construction loan. Fees would be due at the point when long-term financing for the development is secured or the project is sold. A maximum deferment period could also be set (e.g., two years).</p> <p>Low Interest Financing/Equity Sharing. Developments that are deemed eligible could be provided low-interest financing or even equity participation by the City through Policy H-1.4,</p>	Housing Program, Affordable Housing Task Force, Finance Department, City Attorney, Planning Department, Public Works Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • No Affordable Housing Ordinance adopted but many of these items are offered through existing programs; • City has Density Bonus Ordinance; • Fee deferments are offered for Public Facilities Impact Fees for residential projects payable at occupancy instead of permit issuance; • Redevelopment offered program from 1998 to 2002 to provide grants to low income first time homebuyers to pay Impact Fees (\$2500 per home); All \$100,000 in funds have been exhausted; • City’s CDBG program has achieved various infrastructure projects in Central & South Merced. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> • Revise Action to direct City to develop an Affordable Housing Ordinance by December 2004. • Real issue is availability of land. City needs to make more acres available for affordable housing.

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	<p>Joint Development Agreements. Such projects might be required to meet stricter eligibility requirements (e.g., a higher percentage of units affordable to low and moderate income households).</p> <p>Infrastructure Financing Assistance. To reduce the “up-front” infrastructure improvement and development costs, the City could provide assistance in developing alternative, long-term infrastructure financing. Such financing might include formation of a Mello-Roos or special assessment district to support a long-term, low interest revenue bond to fund infrastructure improvements. Bond interest and principal would be paid over time by homeowners in the assessment district.</p>					
1.3.b Establish and Monitor Affordability Levels.	Determine the annual maximum sale prices and rents that may be levied on BMR units as well as the percentage increase that may be levied each year for units with affordability guarantees. In addition, monitor affordability levels through an annual survey of BMR units to ensure compliance with the specified affordability levels. Make affordability level and survey information available to the public.	Housing Program.	<ul style="list-style-type: none"> • None. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Information not readily available to staff and changes quickly. ▪ Not necessary- data available and determined by interest rates.
1.3.c Provide Eligibility Screening and Referral.	Oversee the application and selection process for households qualifying for BMR units, providing developers and realtors with a listing of households that meet eligibility requirements. Eligibility requirements might include point bonuses for households with established residency in Merced, ensuring that new affordable units respond to existing need in the City. In addition, the City should provide information to BMR-unit homebuyers and renters on their rights and responsibilities as well as on assistance that may be available from the City’s housing affordability programs (see Goal Area H-3).	Housing Program.	<ul style="list-style-type: none"> • City provides info to low income residents re: City’s Housing Programs on ongoing basis. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ This is already accomplished through various grant program oversight; additional information released to developers and builders raises privacy issues. ▪ Information could be provided, with the builder assessing the applicants.

POLICY/ ACTION #	POLICY/ACTION	RESPONSIBLE AGENCY	ACCOMPLISHMENTS SINCE 1992	HAS THIS BEEN A SUCCESSFUL ACTION/POLICY FROM 1992-2000 – WHY?	KEEP, ELIMINATE OR MODIFY THE ACTION/POLICY FOR THE NEW HOUSING ELEMENT?	HOW WOULD YOU EDIT THE ACTION/POLICY TO MAKE IT MORE SUCCESSFUL? (EXAMPLES)
Policy H-1.4 Pursue Joint Development Agreements.						
1.4.a Participate in Joint Development Agreements.	<p>Authorize City staff to explore and, if feasible, develop agreements for the joint public/private development of affordable rental and ownership housing in the City of Merced. City participation in development agreements shall:</p> <ul style="list-style-type: none"> - Ensure a minimum affordable housing mix (e.g., 20% very low income, 15% low income, and 15% moderate income). - Ensure affordability of rental units for a period of twenty (20) years minimum. - Require that for-sale units be owner-occupied and that they carry subsidy recapture provisions for a minimum time period (e.g.; 20 years) with the level of City subsidy determined at the time of construction as a percentage of development costs. For example, if the City provides a subsidy of \$5,000 towards a unit that costs \$50,000 to construct and that unit is sold in 25 years for a sum of \$500,000, the City shall receive \$50,000 from the sale to reinvest in new affordable housing developments through the proposed Affordable Housing Community Fund; or Require that units receiving subsidy be guaranteed at below-market rents or sales prices for a period of time (e.g., 20 years, 100 years), with annual rents and allowable sale prices adjusted for inflation. The City may also retain "first right of refusal," i.e., the right to purchase the unit before it is offered for sale to any other buyers. 	Housing Program, Affordable Housing Task Force, Planning Department, Redevelopment Agency, City Attorney, Finance Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> • "The Grove" Apts. (204 low income units) approved in 2002; • "Sierra Meadows" (100 senior apts.) built in 1993-94; • RDA provided funds to "Laurel Glen" (130 low income units) for rehabilitation. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> • Use flexible recapture provisions and covenants, and eliminate detail.
Policy H-1.5 Provide Priority Review and Permitting for Affordable Housing Projects.						
1.5.a Provide Priority Review and "Fast-Track" Permitting for Affordable Housing Developments.	<p>Review the City's current procedures for processing development proposals and approving permits, to identify strategies for accelerating the permitting process for affordable housing developments. This will help shorten the pre-construction period for these projects and reduce their carrying costs. Possible recommendations</p>	Planning, Building, and Public Works Departments.	<ul style="list-style-type: none"> • City established One-Stop Permit Center in 1993; • City gives priority to affordable housing projects in permit processing; 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> • Helpful.

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	might include procedural changes, one-stop processing, or increased staffing for review of applications.		<ul style="list-style-type: none"> City Housing projects are “fast-tracked” for plan-checking (2 wks instead of 6 wks). 			
Policy H-1.6 Support the Construction of Second Units.						
1.6.a Review Second Unit Occupancy Requirements.	Consider revision of the occupancy requirements stated in the Second Unit Ordinance (20.10.170, subsection F) to allow occupancy by non-owner occupants regardless of age or relation by blood or marriage to the owner-occupants.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> Not done yet but is a high priority due to recent State law changes. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Program to complete in 2004 to conform to new State Laws including making 2nd unit available to more people.
1.6.b Increase Lot Coverage for Second Unit Lots in R-1-6 Districts.	Increase the maximum lot coverage from 40 percent to 50 percent for R-1-6 zoned lots where a Second Unit is constructed.	Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> ZOA #99-04 approved change from 40% to 45% for all R-1-6 lots, not just ones w/ 2nd units. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Goal accomplished.
1.6.c Encourage Homeowners to Construct Second Units.	Publicize the Second Unit Ordinance and the income benefits of second unit construction to homeowners in the City. Link this promotion with information on the availability of low-interest rehabilitation loans and other funding programs to support second unit development and provide technical support as necessary to interested homeowners.	Housing Program.	<ul style="list-style-type: none"> Program is not actively promoted. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Modify to detail action; include brochure development and distribution by mid-2005. See 4.2.a.
Policy H-1.7 Pursue State and Federal Funds for New Housing Construction.						
1.7.a Apply for State and Federal Funds to Support New Housing Construction.	Identify and apply for funding at the State and Federal levels to finance the construction of new affordable housing in the City. When possible, pursuit of State and Federal monies shall be coordinated with other local agencies and jurisdictions, with private developers and/or with local lending institutions.	Housing Program.	<ul style="list-style-type: none"> CDBG & HOME funds have been granted every year since 1980's; Last 5 years (1999-2003), a total of \$10,574,348 has been received. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Infrastructure a priority.

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1.7.b Provide Assistance for Private and Nonprofit Applicants to State and Federal Programs.	Assist private and nonprofit individuals or organizations in applying for State and Federal funds. Assistance may take the form of information referral, consultation regarding program applications, and/or lobbying by local officials on behalf of the applicant.	Housing Program.	Fund procurement assistance provided to various projects, such as "The Grove" and "Merced Family Apts." (2002 & 2003) w/ tax credit & other funding applications.	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	
Policy H-1.8 Support Housing to Meet Special Needs						
1.8.a Promote and Develop Housing to Meet Special Needs.	Work with private and nonprofit developers as well as the Merced College "Build-A-House" Project to finance, design, and construct housing to meet special needs. Such projects might include, but are not limited to: senior housing, including congregate care facilities; housing for people with physical and mental disabilities; farm worker housing; transitional housing for the homeless; an emergency shelter for the homeless; and housing for large families.	Housing Program.	<ul style="list-style-type: none"> • "Sierra Meadows" Apts. for Seniors (100 units); • 70 units have been reconstructed/rehabilitated for large families through City Housing Program; • Since 1994, over 35 projects modified to accommodate physically disabled occupants (City Housing Program); • Rehabbed 1 Adult Drug Recovery Home w/ 6 beds & 1 Daycare Center (30 kids). 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Eliminate reference to Merced College program (no longer exists), but replace w/ "Firm Build" program by Merced Housing Authority. ▪ Should also reflect work with Central Valley Coalition for Affordable Housing (CHDO) through which the City funds 2-3 units/year with HOME funds.
Policy H-1.9 Continue the "Build-A-House" Project with Merced College.						
1.9.a Support the "Build-A-House" Project with Merced College.	Continue to support and seek to expand the Build-A-House Project, sponsored in conjunction with Merced College. The project provides funding and technical assistance for residential development in which college students are responsible for construction. As a priority, target projects to provide housing for special needs groups.	Housing Program.	<ul style="list-style-type: none"> • Built approx. 10 homes under the program before it was discontinued. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> ▪ Eliminate – covered in 1.8.a

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Policy H-2.1 Continue the City's Housing Rehabilitation Loan Program.						
2.1.a Continue the Housing Rehabilitation Loan Program for Homeowners	Allocate monies from the City's Affordable Housing Community Fund to expand the City's Housing Rehabilitation Loan Program. Through the Program, provide low-interest rehabilitation loans to qualifying homeowners and owners of rental properties. Loan principal and interest are paid back over time through a revolving loan pool that is then used to assist others in upgrading their units to meet code requirements and quality standards. Program loan monies may also be supplemented with Home Improvement Funds from PG&E based on fund availability and household eligibility.	Housing Program.	<ul style="list-style-type: none"> Since 1995, over 250 units have been reconstructed or rehabilitated for low income residents through City's Housing Program; See Table on last page for summary of all households served by City's Housing Program since 1995. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Eliminate reference to Affordable Housing Community Fund; change to City's Affordable Housing Programs. Underutilized. Provide more information to low-income residents through Code Enforcement and Housing Programs. Not underutilized; under funded.
2.1.b Identify and Notify Owners of Substandard Units.	Based on the results of the City's recent housing inventory, identify substandard units in need of rehabilitation and notify owners of the availability of financing through the Housing Rehabilitation Loan Program.	Housing Program.	<ul style="list-style-type: none"> In 1999, City's Code Enforcement Program expanded from 1 to 3 officers; Since 1995, over 10,100 households have been served by this program. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Eliminate reference to housing conditions inventory (out of date). Modify to more fully detail results and dispense rehabilitation financing program information.
Policy H-2.2 Promote Preventative Maintenance and Energy Conservation in Older Housing Units.						
2.2.a Identify and Notify Owners of Older Units or Units in Need of Moderate Repairs.	Based on information collected during the City's recent housing conditions inventory, identify older housing units in need of repair <i>to keep them from becoming substandard</i> . Notify the owners of these units that low-interest financing is available to assist them in minor rehabilitation.	Housing Program.	<ul style="list-style-type: none"> See Code Enforcement accomplishments above. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Eliminate reference to housing conditions inventory (out of date); Perhaps combine policy w/ H-2.1 and program 2.2.b.
2.2.b Provide Public Information on Preventative Maintenance and Energy Conservation.	Utilize public information programs to educate the public on low-cost preventative maintenance and energy conservation measures they can take to prolong the life and quality of their home and reduce their long-term utility and maintenance costs.	Housing Program.	<ul style="list-style-type: none"> Have "Homeowner Preventative Maintenance" brochures available at City Offices & it is provided to all City Housing program recipients. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Accomplished through buyer counseling programs of lenders and non-profits.

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Policy H-2.3 Pursue State and Federal Funds to Support Conservation and Rehabilitation.						
2.3.a Apply for State and Federal Funds to Support Housing Conservation and Rehabilitation.	Direct City staff to identify and apply for funding at the State and Federal levels to help finance housing conservation and rehabilitation in the City. When possible, pursuit of State and Federal monies shall be coordinated with other local agencies and jurisdictions, with private developers and/or with local lending institutions.	Housing Program.	<ul style="list-style-type: none"> See information under H-1.7.a. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Combine with similar polices. Consider establishing Historical District to open additional avenues of funding.
Policy H-2.4 Retain Existing Subsidized Lower-Income Units.						
2.4.a Monitor Affordable Projects At Risk of Conversion to Market Rate.	Maintain regular communication with the owners of all subsidized projects in Merced to keep up-to-date on their plans to maintain affordability.	Housing Program.	<ul style="list-style-type: none"> City doesn't have many "at risk" units for at least 10-20 years. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Unnecessary due to lack of at-risk units in City during current time frame. Housing Authority oversees Section 8. Change responsible party and new program state "pursue". Eliminate now and review in future.
2.4.b Work With the Merced County Housing Authority to Maintain and Seek Additional Section 8 Funding.	Monitor Federal actions and appropriations regarding extension of Section 8 contracts, and actively support additional appropriations.	Housing Program.	<ul style="list-style-type: none"> Housing Authority oversees the Section 8 program; City would assist if asked, but no assistance has been requested. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> City's assistance has not been required in past and is not anticipated to be needed. Redundant.
2.4.c Continue Rental Subsidy Allocations in Merced.	Continue to participate in the Housing Authority Allocation of housing rental subsidies in Merced for very-low and low-income households.	Housing Program.	<ul style="list-style-type: none"> See H-2.4.b above. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> See H-2.4.b above.

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2.4.d Assist Local Nonprofits in Purchasing At- Risk Projects.	Work with nonprofit organizations, such as the Merced County Coalition for Affordable Housing, in assembling resources to purchase at-risk projects when they are offered for sale.	Housing Program; Merced County Coalition for Affordable Housing.	<ul style="list-style-type: none"> See H-2.4.a above. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> See H-2.4.a above. Keep policy to review “at risk” status 2007.
Policy H-3.1 Provide Down payment Assistance to Qualifying Homebuyers.						
3.1.a Establish a Down payment Assistance Program.	Establish a revolving loan pool to provide low-interest loans to first-time low and moderate income homebuyers. The loan pool would be established and operated as a self-sustaining funding source, with established guidelines setting forth terms and conditions for down payment loans. Such guidelines might include a percentage-of-buying-price or total dollar limit on loans and conditions for interest and principal repayment (e.g., due after 20 years or at time of resale). Guidelines will be developed based on the dual goals of making the loan pool self-sustaining and lowering the financial burden on first-time, low and moderate income homebuyers.	Housing Program, Affordable Housing Task Force, Redevelopment Agency, City Attorney, Finance Department, City Council.	<ul style="list-style-type: none"> Since 1995, the City’s First-time Homebuyers Program has assisted over 570 low income households to buy their own homes. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Modify to continue City’s First-time Homebuyers Program. Helpful assistance to borderline buyers when rates are more typical than presently. Modify for quicker payback.
Policy H-3.2 Work with the Housing Authority to Continue and Expand Section 8 Programs.						
3.2.a Continue Cooperative Efforts with the County Housing Authority.	Continue working with the Merced County Housing Authority to maximize use of Section 8 rental assistance programs in the City of Merced. Cooperative activities may include, but are not limited to: identification and/or development of housing units available for Section 8 occupancy; identification of households eligible for Section 8 assistance; and assistance in lobbying the Federal government for an increased allocation of Section 8 vouchers and certificates for Merced County’s large and growing population of very low and low income households.	Housing Program.		<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Combine w/ Policy H-2.4 and programs 2.4.b and c.

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Policy H-3.3 Explore the Potential for an Experimental Rental Assistance Program for the Homeless.						
3.3.a Explore the Potential for an Experimental "Rental Assistance Program" for the Homeless.	Work with community agencies (e.g., Community Action Agency and Salvation Army) to fund and operate an experimental "temporary rental assistance program" to assist households who have been displaced from their home or apartment. Funding could be provided by the City or a coalition of agencies. The program would provide a limited financial grant or deposit to assist low-income, qualifying households in re-entering the housing market. The program could be established and monitored for a twelve-month trial period. If the program is evaluated highly, the City would consider funding it as an ongoing program.	Housing Program, Affordable Housing Task Force, City Council.	<ul style="list-style-type: none"> In 2001 and 2002, the City provided over \$30,000 to fund County's homeless shelter during winter months. Working with County Community Action Agency to create permanent homeless shelter. 	<input type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input checked="" type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> "Temporary Rental Assistance Program" not feasible with current resources available. Work with Continuum of Care to establish fund for transitional housing. Modify - City and Merced County Community Action Agency continue work to create a permanent homeless shelter. City should focus temporary rental programs to families, especially with children. 1995 Consolidated Plan did not identify/address homelessness as a priority need for the City. By 2000, it was recognized as becoming more of an issue.
Policy H-3.4 Coordinate with Local Agencies to Provide Assistance to the Homeless.						
3.4.a Continue to Support Efforts to Coordinate Homeless Services.	The City shall continue to work with the United Way, Merced County Human Services Agency, the County Housing Authority, local church groups, and other service providers to support their efforts in providing shelter and services to the homeless.	Housing Program, Affordable Housing Task Force.	<ul style="list-style-type: none"> In 2002, the preparation of a Continuum of Care plan began by MCAG; City has been active participant & is assisting in grant preparation. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> City to create matching program to incentive funds donated to shelters and transitional housing. Include Continuum of Care; combine with 3.4.b as single program. Homeless need City's help. Keep program and keep more detailed records.
3.4.b Explore the Feasibility of	Provide technical assistance and financial support for development of transitional housing to serve	Housing Program.	<ul style="list-style-type: none"> For FY 03-04, the Continuum of Care 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program	<ul style="list-style-type: none"> Combine w/ Policy 3.4.a above.

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Developing Transitional Housing for the Homeless and a permanent Emergency Shelter facility.	homeless families and individuals. In addition, work with other agencies and nonprofit organizations to explore the feasibility of developing a permanent emergency shelter facility in the City.		Task Force will be applying for 2 federal grants to fund a permanent homeless shelter; <ul style="list-style-type: none"> The City continues to work w/ the Community Action Agency in seeking a location for permanent shelter. 	<input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Modify Program	
Policy H-3.5 Pursue State and Federal Funds to Assist Affordability Efforts.						
3.5.a Apply for State and Federal Funds to Support Affordability Efforts.	Identify and apply for funding at the State and Federal levels to help bridge the “affordability gap” between housing prices and household incomes in the City (e.g., assistance for first-time homebuyers). When possible, pursuit of State and Federal monies shall be coordinated with other local agencies and jurisdictions, with private developers and/or with local lending institutions.	Housing Program.	<ul style="list-style-type: none"> See Policy H-3.1.a above (First-time Homebuyers Program). 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Combine w/ Policy 3.1.a above. Numbers in 3.1.a seem low; expand program. Keep for live/work population.
Policy H-4.1 Establish an Affordable Housing Community Fund.						
4.1.a Establish an Affordable Housing Community Fund.	Establish a new City account under the title of “Affordable Housing Community Fund” to serve as the depository for monies designated for general use in affordable housing programs (project-specific monies excluded). The Fund shall be managed by the City’s Housing Program, with policy oversight and monitoring from the City’s Affordable Housing Task Force. Potential uses for Fund monies shall include land acquisition for affordable housing, participation in affordable housing development projects, contributions to the City’s Rehabilitation Loan and Rental Assistance programs, low-interest financing for the construction of second units, and support for down payment assistance for first-time homebuyers. Goals and priorities for use of Fund monies shall be established by the	Housing Program, Affordable Housing Task Force, Redevelopment Agency, Finance Department.	<ul style="list-style-type: none"> No action taken. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input checked="" type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Have achieved goals through other programs/policies; Special fund not necessary. In-lieu fees once supported; now may not favor option as it may be used to avoid inclusionary housing. Eliminate use of RDA. Do Historical District; work with Affordable Housing Task Force and expand to private and non-profits.

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	Affordable Housing Task Force and City Council.					<ul style="list-style-type: none"> Build infrastructure and provide cheap land; let the private sector do the building.
4.1.b Maximize Public/Private Contributions to the City's Affordable Housing Community Fund.	<p>Explore potential funding contributions from both public and private sources for the City's Affordable Housing Community Fund. Potential sources include:</p> <ul style="list-style-type: none"> 20 percent set-aside from Redevelopment Agency tax-increment income; Documentary transfer tax contributions; and Contributions from private sources. 	Housing Program, Affordable Housing Task Force, Redevelopment Agency, Finance Department	<ul style="list-style-type: none"> No action taken. 	<input type="checkbox"/> Successful <input checked="" type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input type="checkbox"/> Keep Program <input checked="" type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	
Policy H-4.2 Educate the Public Regarding Affordable Housing Issues And Programs.						
4.2.a Provide Ongoing Public Information on Affordable Housing Issues and Programs.	<p>Ensure that information on affordable housing issues and programs in the City of Merced is made available to city residents, developers, and local lenders, by placing program brochures, copies of city documents, and other pertinent information in the city libraries and at the Merced Civic Center. In addition, make this information available to community-based groups serving lower income residents, such as the Lao Family Community Center. Maximize public visibility for housing programs by encouraging representatives of the local media to cover affordable housing as an important community issue in need of community-wide attention and response.</p>	Housing Program.	<ul style="list-style-type: none"> All HUD-funded activities are publicly noticed through display ads in local newspapers (usually provided in 3 languages); Info on City programs available in City offices & on City website. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Should expand efforts to publicize Housing Programs in non-government locations. Expand awareness to needy population. Establish community groups list: including Housing Authority, Chamber of Commerce, grocery stores, school bulletins, drug stores, PSAs, Community Resource Council, Community Centers.
4.2.b Establish a Tenant and Landlord Education Program.	<p>Work with the County Housing Authority, the Merced County Rental Housing Association, and other relevant organizations to develop and implement educational materials and classes (perhaps in the form of an ongoing speakers series focusing on special topics or issues) to educate tenants and landlords on their rights and responsibilities. Focus on pro-active strategies and skills to improve public safety, housing conditions, and tenant-landlord relations,</p>	Housing Program; Affordable Housing Task Force.	<ul style="list-style-type: none"> Since 2000, have sponsored 3-4 workshops per year on Fair Housing and Tenant/Landlord relations & rights. Fair Housing commercial appeared on cable TV during 2000. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Should be modified to reflect ongoing seminars by private lenders and Central Valley Coalition for Affordable Housing. Get better information dissemination. Low priority. Accomplished through buyer counseling

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	covering issues such as fire safety, neighborhood watch, and personal financial management.					programs of lenders and non-profits.
Policy H-4.3 This policy was deleted by City Council Action on November 4, 1996.						
Policy H-4.4 Support the City of Merced General Plan Update.						
4.4.a Work with Planning Staff to Update the City of Merced General Plan.	Housing Program staff will work with the City's planning staff on the comprehensive update of the City of Merced General Plan. In particular, the General Plan Land Use Element shall be reviewed and updated to reflect the goals and policies of the Housing Action Plan and Housing Element of the General Plan, including an evaluation of residential densities (<i>Implementing Program H-1.1a</i>) in the City and mechanisms for increasing density (e.g., allowing multi-family construction) where appropriate and where a percentage of units are guaranteed at below-market rates (in accordance with the proposed Affordable Housing Ordinance).	Housing Program.	<ul style="list-style-type: none"> General Plan adopted in 1997. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Goal was accomplished. Should be continued. Expand for stronger focus on affordability, senior, disabled, for all income levels. Continue higher density projects.
Policy H-4.5 Periodically Review and Evaluate the Housing Action Plan.						
4.5.a Conduct an Annual Program Review and Evaluation.	Direct City staff to review and evaluate program implementation on an annual basis and to present the results of that review in written form to the Affordable Housing Task Force, the Planning Commission, and the City Council. The review shall be conducted in conjunction with the City's annual budgeting process and shall include expenditures and results by program, summary of success towards meeting stated targets, and an update on progress towards longer range goals. Recommendations for revisions and/or specific program alteration may also be made and submitted for approval.	Housing Program, Affordable Housing Task Force, Planning Commission, and City Council.	<ul style="list-style-type: none"> In 1995 and 2000, City adopted a 5-year Consolidated Plan for CDBG & HOME funds; Each year, City prepares Annual Action Plan for Consolidated Plan (which sets forth plans for how funds will be spent) and CAPER (which reports what has been achieved with those funds). 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Modify policy to reflect current terminology. Include language requiring monitoring of effectiveness/ results of housing policies. More community involvement needed and reviews should be done annually. Too frequent. Eliminate and add evaluation criteria separately to each program.

POLICY/ ACTION #	POLICY/ACTION	RESPONSIBLE AGENCY	ACCOMPLISHMENTS SINCE 1992	HAS THIS BEEN A SUCCESSFUL ACTION/POLICY FROM 1992-2000 – WHY?	KEEP, ELIMINATE OR MODIFY THE ACTION/POLICY FOR THE NEW HOUSING ELEMENT?	HOW WOULD YOU EDIT THE ACTION/POLICY TO MAKE IT MORE SUCCESSFUL? (EXAMPLES)
4.5.b Review, Revise and Confirm Goals, Policies, Programs and Quantified Objectives Every Five Years.	Conduct a comprehensive review of goals, policies, programs, and quantified objectives included in the Housing Action Plan on a five-year interval. Revise and re-confirm goals, policies, and programs and identify new quantified objectives during the review process. Update the City's Housing Element and Comprehensive Housing Affordability Strategy to reflect the new five-year Housing Action Plan.	Housing Program, Affordable Housing Task Force, Planning Department, Planning Commission, and City Council.	<ul style="list-style-type: none"> In 1995 and 2000, City adopted a 5-year Consolidated Plan for CDBG & HOME funds; In 2003, updated Housing Element will be prepared. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Combine w/ Policy H-4.5.a above. Agree with continuing program. Eliminate as will be added to monitor each new program on annual basis.
Policy H-4.6 Ensure that the City of Merced Provides Its Fair-Share of Affordable Housing.						
4.6.a Coordinate with County-wide Policies and Objectives.	City staff shall work with staff from the County to periodically review and update policies, programs, and quantified objectives identified in the City of Merced Housing Action Plan and related policy documents to ensure consistency with projections from the Merced County Association of Governments. Consistency between the City and County housing policies and programs shall also be reviewed, with opportunities for cooperative efforts identified and pursued. The review shall coincide with the Annual Program Review authorized in Implementing Program H-4.5a.	Housing Program	<ul style="list-style-type: none"> Each July, City prepares a General Plan Annual Report which notes progress in implementing the General Plan and City's progress on meeting its share of Regional Housing Needs; In 2002, MCAG prepared new Regional Housing Needs numbers. 	<input checked="" type="checkbox"/> Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Neutral Why?	<input checked="" type="checkbox"/> Keep Program <input type="checkbox"/> Eliminate Program <input type="checkbox"/> Modify Program	<ul style="list-style-type: none"> Combine w/ Policy H-4.5.a above. Modify to include results and require some accountability Keep consistency through reviews and cooperative efforts. Include LAFCO Eliminate as will be added to monitor each new program on annual basis.

Table 9.2.2

Units Assisted by City Housing Program (1995-2002)

Priority Need Category	FY 95-96	FY 96-97	FY 97-98	FY 98-99	FY 99-00	FY 00-01	FY 01-02	TOTAL (1995-2002)
RENTERS								
0-30% of MFI	1	0	1	0	1	0	0	3
31-50% of MFI	1	1	2	2	2	4	0	12
51-80% of MFI	1	0	0	0	2	0	0	3
Vacant	0	0	2	3	3	128	2	138
<i>Total</i>	3	1	5	5	8	132	2	156
OWNERS								
0-30% (Very Low)	6	7	9	6	4	1	3	36
31-50% (Low)	22	24	31	22	18	10	5	132
51-80% (Moderate)	59	114	91	70	49	33	18	434
Vacant/(Above Moderate)	0	0	60	39	10	8	6	123
<i>Total</i>	87	145	191	137	81	52	32	725
NON-HOMELESS SPECIAL NEEDS	0	0	100 (Senior Housing)	1 unit (6-bed Recovery Home)	1 unit (Childcare Center)	0	1 unit (Boarding House)	103
<i>Total</i>	0	0	100	1	1	0	1	103
TOTAL HOUSING	90	146	296	143	90	184	35	984

Source: City of Merced HUD Consolidated Annual Performance and Evaluation Reports, 1995-2002

Table 9.2.2 shows the number of units (both renter and owner) that were assisted by the City of Merced Housing Program between 1995 and 2002. The total number of units assisted was 984.

9.3 POPULATION AND HOUSING DATA

To adequately plan for any occurrence, change, or improvements, it is necessary to fully understand present conditions and the past trends that led to the current environment. The same holds true for housing - a successful strategy must be preceded by an adequate assessment of the community and regional environment. This section discusses the components of housing need, which include the trends between 1990 and 2000 in Merced's population, households, employment base and the type of housing units available. In most all areas, countywide data is included for comparative analysis as well.

The analysis that follows is divided into four major subsections. **Population Characteristics** examines the City of Merced in terms of individual persons and identifies population trends that may affect future housing needs. **Household Characteristics** examines Merced by families, households, or living groups, to see how past and expected household changes will affect housing needs. **Employment** denotes primary income sources and levels by occupation. A review of the **Housing Stock** discloses the housing environment in Merced as a whole and details availability, affordability, and condition. Such information is invaluable to help identify needed programs that ensure that existing and future housing stock meets the shelter needs of every segment of the City's population. Analysis in each of these subsections provides a database upon which decisions concerning programs and policies for the provision of adequate housing in the City are made.

9.3.1 Population Characteristics

To effectively address and identify existing and future housing needs for the City of Merced, population variables such as demographic and socioeconomic characteristics and trends must be analyzed. The resulting community profile is based on available data from the U.S. Census Bureau, Department of Finance (DOF), Merced County Association of Governments (MCAG) and various other informational sources.

It should be noted also that MCAG's projections for the City of Merced's Regional Housing Needs Allocation included estimates of housing need resulting from the new UC Merced Campus.

Population Trends

The City of Merced was incorporated as a general law City in 1889. Since incorporation, the City has grown to a population of 66,100, as reported in the January 1, 2002 Department of Finance Population Estimates. In 1980, the population of Merced was 36,499, and by 1990 the population had increased to 56,216 (reference Table 9.3.1). This was an increase of approximately 54 percent, which was much higher than both Merced County's and California's increase in population for the same time period. From 1990 to 2000, the City's population increased 13.7 percent to total 63,893. Merced County and California's population increase from 1990 to 2000 was higher at 18.0 percent and 13.8 percent respectively.

Table 9.3.2 shows Population Estimates and Projections for Merced and Merced County for the years 2000, 2005, and 2010. MCAG estimates 81,263 persons in Merced and 242,846 persons in Merced County by 2005. By 2010, Merced is projected to have a

population of 92,014 persons and Merced County is projected to have a population of 273,923 persons. The 2005 and 2010

projections are based on MCAG's population forecast and include UC Merced.

Table 9.3.1

Population Growth
Merced, Merced County and California, 1980-2000

	1980 Population	1990 Population	Percent Change 1980 to 1990	2000 Population	Percent Change 1990 to 2000
Merced	36,499	56,216	54.0%	63,893	13.7%
Merced County	134,560	178,403	32.6%	210,554	18.0%
California	23,668,862	29,760,021	25.7%	33,871,648	13.8%

Source: 1980, 1990, & 2000 U.S. Census

Table 9.3.2

Population Estimates and Projections
MCAG Projections, 2000-2010

	2000 ¹	2005	2010
Merced	63,893	81,263	92,014
Merced County	210,554	242,846	273,923

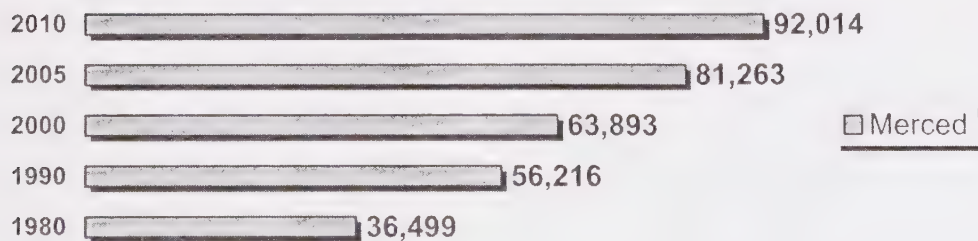
Source: MCAG, Regional Housing Needs Plan, January 1, 2001 through June 30, 2008

¹ 2000 U.S. Census

² Population projections apply to Merced's SUPD, not the City limits.

Illustrative Figure of Population Growth and Projections

Merced Population and Estimated Growth



UC Merced is planned to open with 1,000 (900 undergraduates and 100 graduate students) in the fall of 2004, and also 100 faculty and approximately 300 staff. The campus is expected to grow rapidly, with the addition of approximately 1,000 students in

2005 and 800 students per year thereafter. By 2010 – 2011 the campus will have grown to 6,000 full-time enrolled students. The proportion of graduate students is expected to grow from ten percent at opening to fifteen percent by the tenth year of

operation. The UC's Long Range Development Plan (LDRP) defines a campus that can accommodate a total of 25,000 students: 21,500 undergraduates and 3,500 graduate students, with a faculty and staff of 6,600.

Household Size

Table 9.3.3 shows Merced and Merced County's Total Households, Population in Households, and Average Household Size

for 1990 and 2000. In 1990, Merced's Average Household Size was 3.03 while the County's Average Household Size was 3.17. Average Household Size in 2000 was 3.06 persons per household for Merced and 3.25 persons per household for the County, showing a slight growth in household size for the general area. Even this slight increase may show over the current decade with the expected influx of students attending UC Merced.

Table 9.3.3

*Average Household Size
Merced and Merced County, 1990-2000*

Area	Year	Number of Households	Population in Households	Average Household Size
Merced	1990	18,154	55,350	3.03
Merced	2000	20,435	62,523	3.06
Merced County	1990	55,331	175,172	3.17
Merced County	2000	63,815	207,699	3.25

Source: 1990 and 2000 U.S. Census

Age Characteristics

Age group changes in the local population provide indicators to future housing needs. Table 9.3.4 compares age group changes from 1990 to 2000 for the City of Merced. The percentage of children under 10 years of age decreased from 21.8 percent of the population in 1990 to 19.4 percent of the population in 2000. The 10 to 19-age group increased from 15.7 percent of the population in 1990 to 19.0 percent of the population in 2000. The 20 to 34-age group decreased from 26.7 percent of the population in 1990 to 21.6 percent in 2000. The 35 to 54-age group increased from 20.6

percent of the population in 1990 to 24.4 percent in 2000. The 55 and over age group increased slightly from 15.1 percent in 1990 to 15.7 percent in 2000. The most significant changes (by 2 or more percentage points) were in the age ranges of 25 to 34 (reduced by 4.5 percentage points) and 45 to 54 which increased by 3.2 percentage points. The primary age group for purchasing homes is the 30 to 45-age group, which overall has decreased slightly since 1990. However, the demand for both renter and owner-occupied housing is expected to increase throughout the planning period as the new UC Merced opportunities attracts students, faculty, and staff.

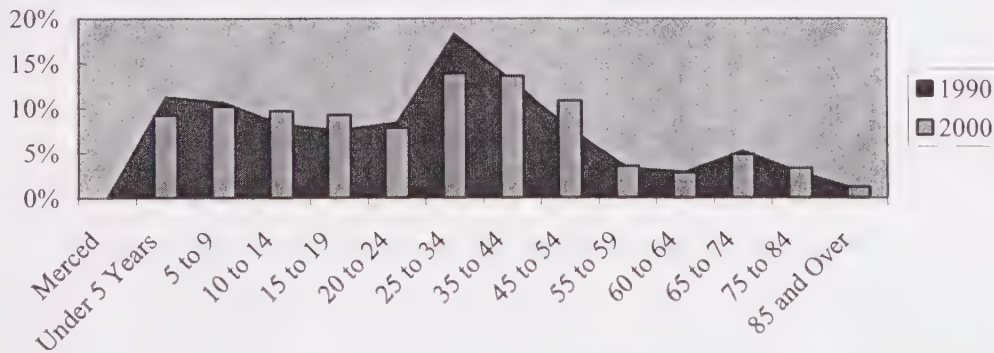
Table 9.3.4

Age Distribution, 1990-2000

Merced	1990		2000	
	Population	Percent	Population	Percent
Under 5 Years	6,319	11.2	5,860	9.2
5 to 9	5,984	10.6	6,487	10.2
10 to 14	4,588	8.2	6,187	9.7
15 to 19	4,231	7.5	5,917	9.3
20 to 24	4,706	8.4	4,967	7.8
25 to 34	10,270	18.3	8,845	13.8
35 to 44	7,289	13.0	8,682	13.6
45 to 54	4,286	7.6	6,908	10.8
55 to 59	1,875	3.3	2,241	3.5
60 to 64	1,611	2.9	1,778	2.8
65 to 74	2,944	5.2	3,106	4.9
75 to 84	1,596	2.8	2,117	3.3
85 and Over	517	0.9	798	1.2
Total	56,216	100.0	63,893	100.0

Source: 1990 and 2000 U.S. Census

Illustrative Figure of Table 9.3.4



Race/Ethnicity Characteristics

Table 9.3.5 shows the ethnic composition of Merced's population. Between 1990 and 2000 the actual number of the White population decreased and the percentage of Whites decreased from 61.7 percent of the

total population to 52.4 percent. The Black or African Americans also decreased from 6.9 percent to 6.3 percent during the same time period even though the number of Black or African American persons increased.

These declines in percentage of total population of some races and ethnic groups are true throughout California and the southwest due to ongoing immigration and increases in family sizes, and may be somewhat attributable to the variation of Race and Ethnic data collection in the 2000 Census. The Hispanic or Latino (of any race) population was 29.9 percent of the population in 1990 and increased to 41.4

percent of the population in 2000. The percentage of American Indians and Alaskan Natives remained basically the same from 1990 to 2000, and the percentage of Asian, Native Hawaiian and Pacific Islanders decreased from 15.2 percent in 1990 to 11.6 percent in 2000. The Hispanic population is the second largest ethnic group in Merced, and has the highest birth rate.

Table 9.3.5

City of Merced Race and Ethnicity, 1990-2000

	1990		2000	
	Number	Percent	Number	Percent
White	34,675	61.7	33,481	52.4
Black or African American	3,860	6.9	4,044	6.3
American Indian and Alaskan Native	522	0.9	818	1.3
Asian, Native Hawaiian, Pacific Islander	8,564	15.2	7,400	11.6
Some Other Race	8,595	15.3	14,813	23.2
Two or More Races	N/A	N/A	3,337	5.2
Total	56,216	100.0	63,893	100.0
Hispanic Origin (of any race)	16,786	29.9	26,425	41.4

Source: 1990 and 2000 U.S. Census

9.3.2 Household Characteristics

Household Type

Information collected on household type provides a good base for the analysis of a community's housing needs. The U.S. Census Bureau defines a household as all persons who occupy a housing unit. This may include single persons living alone, families related by blood or marriage, as well as unrelated individuals living together. Persons living in retirement or convalescent homes, dormitories or other group living situations are enumerated separately and are not counted in household population.

Tables 9.3.6 and 9.3.7 show household characteristics for the City of Merced and Merced County. As Table 9.3.6 indicates, Family Households decreased in the City of Merced from 72.7 percent of total households in 1990 to 71.6 percent in 2000. Married-Couple Families decreased 5.3 percentage points during the same time period. The County's percentage of Family Households decreased from 78.2 percent in 1990 to 78.0 percent in 2000 and Non-Family Households increased 0.2 percentage points for the same time period.

Table 9.3.6

*Household Type Characteristics
City of Merced, 1990-2000*

	1990		2000	
	Number	Percent	Number	Percent
Total Households	18,282	100.0	20,435	100.0
Family households (families)	13,296	72.7	14,632	71.6
Married-couple families	9,628	52.7	9,645	47.2
Nonfamily households	4,986	27.3	5,803	28.4
Householder living alone	3,962	21.7	4,626	22.6
Householder 65 years and over	1,498	8.2	1,731	8.5
Persons Per Household	3.03		3.06	
Total Persons in Households	55,350		62,523	

Source: 1990 & 2000 U.S. Census

Table 9.3.7

*Household Type Characteristics
County of Merced, 1990-2000*

	1990		2000	
	Number	Percent	Number	Percent
Total Households	55,331	100.0%	63,815	100.0%
Family households (families)	43,246	78.2%	49,760	78.0%
Married-couple families	33,739	61.0%	36,854	57.8%
Nonfamily households	12,085	21.8%	14,055	22.0%
Householder living alone	9,777	17.7%	11,318	17.7%
Householder 65 years and over	4,167	7.5%	4,720	7.4%
Persons Per Household	3.17		3.25	
Total Persons in Households	175,172		207,699	

Source: 1990 & 2000 U.S. Census

Housing Units

Table 9.3.8 identifies total housing units for Merced and Merced County in 1980, 1990 and 2000. Between the years 1990 and 2000, a total of 2,684 housing units (U.S. Census data) were added within the City (an increase of 14.2 percent) while Merced County's percentage of housing units increased 17.1 percent to total 68,373 in 2000. Merced's percentage increase in housing units from 1980 to 1990 was 28.4

percent and from 1990 to 2000 was half that at 14.2 percent. The number of new housing units required in the City of Merced as determined in the Regional Housing Needs Plan (MCAG, 2002) is 4,666. From 1980 to 1990 the City added 4,167 Housing Units, and 2,684 units from 1990 to 2000. The 4,666 units required at this time represent a 6.8 percent increase in units over the 5-year planning period, or approximately 13.6 percent over a comparative 10-year period.

Table 9.3.8

**Total Housing Units
Merced and Merced County, 1980-2000**

	1980	1990	1980-1990 Increase (%)	2000	1990-2000 Increase (%)
Merced	14,681	18,848	28.4	21,532	14.2
Merced County	50,016	58,410	16.8	68,373	17.1

Source: 1990 and 2000 U.S. Census

Occupied Housing Units

Table 9.3.9 shows Total Occupied Housing Units and Owner-Occupied and Renter-Occupied Housing Units for 1990 and 2000. The 2000 U.S. Census reported that the total number of occupied housing units in the City was 20,435, including 9,508 (46.5 percent) Owner-Occupied Housing Units

and 10,927 (53.5 percent) Renter-Occupied Housing Units. Owner-Occupied Housing Units increased, and Renter-Occupied Housing Units decreased 1.9 percentage points from 1990 to 2000. As Table 9.3.9 shows, the County's percentage of Owner-Occupied Housing Units was higher than Merced's in both 1990 and 2000.

Table 9.3.9

**Occupied Housing Units
Merced and Merced County, 1990-2000**

	Total Occupied Housing Units	Owner Occupied Housing Units	Owner Occupied Housing Units (%)	Renter Occupied Housing Units	Renter Occupied Housing Units (%)
2000					
Merced	20,435	9,508	46.5	10,927	53.5
Merced County	63,815	37,483	58.7	26,332	41.3
1990					
Merced	18,282	8,159	44.6	10,123	55.4
Merced County	55,331	30,082	54.4	25,249	45.6

Source: 1990 and 2000 U.S. Census

Housing Units By Type

Referencing Table 9.3.10, the vast majority of units built between 1990 and 2000 were Single-Family supported by an increase in Owner-Occupancy (see previous section).

The percentage of Single-Family Housing Units (both attached and detached) increased

from 60.9 percent in 1990 to 62.3 percent in 2000. Correspondingly, the percentage of duplexes decreased slightly from 5.3 percent in 1990 to 4.3 percent in 2000, and the percentage of Multiple Family Housing Units and Mobile Homes decreased just slightly by 0.1 percentage points and 0.2 percentage points respectively from 1990 to 2000.

Table 9.3.10

*Housing Inventory Trends by Unit Type
City of Merced, 1990-2000*

Unit Type	1990		2000	
	Units	Percent of Total	Units	Percent of Total
1-unit, detached	10,570	55.7	12,465	57.9
1-unit, attached	982	5.2	942	4.4
2	1,014	5.3	921	4.3
3 or 4	1,790	9.4	1,797	8.3
5 to 9	1,624	8.6	1,671	7.8
10 to 19	1,091	5.8	775	3.6
20 or more units	1,227	6.5	2,265	10.5
Mobile home or trailer	565	3.0	700	3.2
Other	102	0.5	8	0.0
Total Housing Units	18,965	100	21,544	100

Source: 1990 and 2000 U.S. Census

Vacancy Rates

The vacancy rate in a community indicates the percentage of units that are vacant and for rent/sale at any one time. It is desirable to have a vacancy rate that offers a balance between a buyer and a seller. The state uses five percent as a rule-of-thumb for a desirable total vacancy rate. A total vacancy rate of less than four percent could represent a shortage of housing units. This is not the case in Merced where construction appears to be keeping pace with demand.

In 2000, Merced's total vacancy rate was 5.1 percent (1,097 units) (Reference Table 9.3.11) compared to 3.6 percent (683 units) in 1990. According to the DOF as of January 2003, Merced's vacancy rate remained the same at 5.1 percent. Of the total vacant units in 2000, 590 were for rent, 157 were for sale, 60 were rented or sold but not occupied, 42 were for seasonal, recreational, or occasional use, and 247 were classified as other vacant. The percentage of vacant units for rent and vacant units for sale

both increased from 1990 to 2000 along with the stabilizing balance of a healthy housing market. Based on the above information, Merced has a desirable total vacancy rate.

Table 9.3.11a shows vacant housing units in Merced in 2000 by unit type. According to the 2000 Census, single-family detached units made up the largest percentage of vacant units at 41.6 percent, followed by complexes of 50 or more units at 16.4 percent. Duplexes and mobile homes accounted for 4.9 percent and 5.5 percent of all vacant units respectively.

Although 2000 statistics indicate a favorable vacancy rate for total housing units, it must be noted that the rate for rentals was reported at 2.7 percent. A rental survey of 4,010 apartment units, conducted by Tinetti Realty Group in December 2002, reported only 12 vacant units, resulting in a vacancy rate of 3/10 (three-tenths) of 1 percent.

Table 9.3.11

*Number of Housing Units, Occupied and Vacant
City of Merced, 1990-2000*

	1990		2000	
	Units	Percent of Total	Units	Percent of Total
Total Housing Units	18,848	100.0	21,532	100.0
Occupied Housing Units	18,282	97.0	20,435	94.9
Total Vacant Units	683	3.6	1,097	5.1
For rent	420	2.2	590	2.7
For sale only	93	0.5	157	0.7
Rented or sold, not occupied	64	0.3	60	0.3
For seasonal, recreational, or occasional use	16	0.1	42	0.2
For migratory workers	0	0.0	1	0.0
Other vacant	90	0.5	247	1.1

Source: 1990 and 2000 U.S. Census

Table 9.3.11a

*Vacant Housing Units by Unit Type
City of Merced, 2000*

Unit Type	Number	Percent
1, detached	443	41.6
1, attached	0	0.0
Duplexes	52	4.9
3 or 4	72	6.8
5 to 9	170	16.0
10 to 19	56	5.3
20 to 49	38	3.6
50 or More	175	16.4
Mobile Home	58	5.5
Boat, RV, Van, etc.	0	0.0
Total	1,064	100.0

Source: 2000 U.S. Census

Age of Housing Stock

As illustrated in Table 9.3.12, in 2000, 38.6 percent of Merced's housing stock was built prior to 1970. By 2010, nearly 65 percent (14,095 units) of the City's current housing stock will be over 30 years old. This could indicate the potential need for rehabilitation and continued maintenance of approxi-

mately 14,095 units by the year 2010. The number of units and decade of original construction involved are:

1980's	4,148
1970's	5,433
1960's	2,896
Prior to 1960	5,446

Table 9.3.12

*Age of Housing Stock
City of Merced*

Year Structure Built	Number of Units	Percent of Total
1990 to March 2000	3,301	15.3
1980 to 1989	4,148	19.3
1970 to 1979	5,753	26.7
1960 to 1969	2,896	13.4
1940 to 1959	4,145	19.2
1939 or Earlier	1,301	6.0
Total	21,544	100.0

Source: 2000 U.S. Census

9.3.3 Employment

One of the factors that can contribute to an increase in demand for housing is expansion of the employment base. The 2000 Census classified 22,567 civilian and non-civilian persons in the Merced labor force. Table 9.3.13 shows 2000 Employment by Industry for the City of Merced and Merced County. In Merced, the “Educational, Health and Social Services” industry employed the most people at 25.3 percent. The second largest employment industry was the “Retail Trade” industry, which had 11.1 percent of the total employed persons in Merced. The County’s Employment by Industry is similar to that of Merced’s with the exception of the “Agricultural, Forestry, Fishing and Hunting and Mining” industry, which captured 12.5 percent of the total employed persons 16 years and over compared to the City’s 5.3 percent.

Employment at UC Merced would total about 400 faculty and staff in the opening year (2004-05), this number would grow to about 2,079 by 2014-15, and at full development the University would employ about 6,600 faculty and staff.

In addition to the direct jobs on the campus, the operation of UC Merced would result in the creation of new indirect and induced jobs in the regional economy. Indirect jobs are those that would be created when the University purchases goods and services from businesses in the region, and induced jobs are those that are created or sustained when wage incomes of those employed identify direct and indirect jobs are spent on the purchase of goods and services in the region. Indirect and induced jobs are a result of the income-multiplier process.

According to the LRDP Draft EIR, the campus (at full development) would result in about 6,000 indirect and induced jobs in the regional economy. In the interim years, the number of indirect and induced jobs would be about 2,600 in 2005-06, and about 4,000 in 2025-26. About 32 percent of these jobs would be, as expected, in wholesale and retail trade sectors, about 37 percent in services, about 11 percent in construction, and the balance distributed among other sectors (EPS, 2000).

Table 9.3.13

*Employment by Industry
Merced and Merced County, 2000*

Industry	City of Merced		Merced County	
	Number	Percent	Number	Percent
Employed Persons 16 years and Over	22,267	100.0	75,321	100.0
Agriculture, Forestry, Fishing and Hunting, and Mining	1,173	5.3	9,378	12.5
Construction	1,272	5.7	5,081	6.7
Manufacturing	2,387	10.7	9,781	13.0
Wholesale Trade	691	3.1	3,383	4.5
Retail Trade	2,466	11.1	8,071	10.7
Transportation and Warehousing, and Utilities Information	923	4.1	3,620	4.8
Finance, Insurance, Real Estate, and Rental and Leasing	954	4.3	2,533	3.4
Professional, Scientific, Management, Administrative, and Waste Management Services	1,859	8.3	4,547	6.0
Educational, Health and Social Services	5,624	25.3	15,296	20.3
Arts, Entertainment, Recreation, Accommodation, and Food Services	1,695	7.6	5,158	6.8
Other Services (Except Public Administration)	989	4.4	3,241	4.3
Public Administration	1,323	5.9	3,198	4.2

Source: 2000 U.S. Census

9.3.4 Household Income Characteristics

Household income level is probably the most significant factor limiting housing choice. Therefore, income patterns have been examined carefully to assess the extent of housing need. Certain population groups (elderly, female householders, farm workers, etc.) fall disproportionately into low-income groups, so they have been given special attention.

Three different income measures are relevant to the analysis. They are median income, lower income, and poverty level income.

Median Income

Median income is the amount that divides the income distribution into two equal

groups: one group having incomes above the median, and the other having incomes below. Median family income is different from median household income. Median family income indicates income for those households with two or more related individuals, i.e. families, while median household income indicates the income of all households, including persons living alone or with unrelated individuals. Median family income is, generally speaking, higher than median household income.

The median income data provides a comparison of current income levels in Merced, the County of Merced, the State of California, and the United States. Other data, such as lower income, which is defined as 80 percent of the median income level, and poverty level income, add insight as they relate to families and households in the

bottom one-half of the income distribution. Calculations based on these two measures are used to determine eligibility for most housing subsidy programs.

Table 9.3.14 identifies 1990 and 2000 U.S. Census Median Family and Median Household Income for Merced and Merced County. The California and U.S. median incomes are also indicated for comparison.

Table 9.3.14
Median Family and Household Income, 1990-2000

Area	1990		2000	
	Median Family	Median Household	Median Family	Median Household
Merced	25,548	24,727	32,470	30,429
Merced County	28,269	27,388	38,009	35,532
California	40,559	35,798	53,025	47,493
United States	35,225	30,056	50,046	41,994

Source: U.S. Bureau of the Census, 1990 and 2000 Census of Population and Housing

Median Household Income in Merced increased 23 percent from 1990 to 2000 to total \$30,429. Median Household Income in 2000 in Merced was lower than Merced County, and Median Family Income in Merced was also lower than the County's. Merced's Median Family and Median Household Incomes were significantly lower than California and the nation in both 1990 and 2000.

Lower Income

An income less than 80 percent of the median, adjusted for family size, is classified as "lower income" by the U.S. Department of Housing and Urban Development.

Using that definition, Table 9.3.15 identifies the number and percentage of Lower Income Households in Merced and Merced County in 1990 and 2000. In 1990, 37.1 percent of Merced households had incomes at 80 percent or less of the median, and 43.4 percent of Merced County households had incomes at 80 percent or less of the median. In 2000, the number of lower income households in Merced increased 2.5

percentage points from 1990, while the number of Lower Income Households in the County decreased 4.1 percentage points. In 2000, the percentage of Owner-Occupied Lower Income Households was 9.8 percent of the total number of households in Merced and the percentage of Renter-Occupied Lower Income Households was 29.7 percent of the total number of households. This is often indicative of the difficulty Lower Income Households experience in accumulating funds for ownership down payments.

Poverty Level Income

Poverty level incomes are computed on a national basis as a part of the U.S. Census. An index of poverty has been developed that, by established and complex formulas, considers factors such as family size, number of children, farm/non-farm residences and income. The definition assumes that a family is classified at poverty level if its total income amounts to less than approximately three times the cost of an economic food plan as determined by the U.S. Department of Agriculture.

Table 9.3.15

*Dispersion of Lower Income Households
Merced and Merced County, 1990-2000*

			Merced			
			Owner-Occupied		Renter-Occupied	
2000			Number	% of Total	Number	% of Total
Total Households	20,435	100%	9,508	46.5	10,927	53.5
Number of Lower Income Households	8,085	39.6%	2,011	9.8	6,074	29.7
			Merced County			
			Owner-Occupied		Renter-Occupied	
2000			Number	% of Total	Number	% of Total
Total Households	63,815	100%	37,483	58.7	26,332	41.3
Number of Lower Income Households	25,104	39.3%	9,695	15.2	15,409	24.1
			Merced		Merced County	
1990	Number	% of Total	Number	% of Total		
Total Households	18,282	100	55,331	100		
Number of Lower Income Households	6,776	37.1	23,998	43.4		

Source: U.S. Bureau of the Census, 1990 and 2000 Census of Population and Housing

Table 9.3.16 identifies the number of Merced and Merced County families and individuals, in 1989 and 1999 with incomes below the poverty level. Families and individuals experiencing the most severe income deficiencies are those with incomes that fall below this poverty level. The 2000 U.S. Census indicates that 3,296 or 22.4 percent of all Merced families had poverty level incomes or less, while, in 1989, 2,717 or 20.2 percent had poverty level incomes or less. Approximately 15.4 percent of all Merced County families were classified at or below the poverty level in 1989 and 16.9 percent were so classified in 1999. The percentage of individuals at or below poverty level in Merced in 1999 was 27.9 percent compared to the County, which had 21.7 percent of individuals at or below poverty level. According to the California

Food Policy Advocates, Merced County ranks third among the 58 counties in California in poverty and fifth in child poverty.

9.3.5 Alternatives to Traditional Single-Family Housing

New housing alternatives often evolve into the market when the traditional housing supply cannot meet the needs of all segments of the population. Until the late 1970's, single-family housing had been in demand across the country as an investment, a hedge against inflation, and as a preferable place to raise a family. However, with the changing economy, including high interest rates, moderate and lower income groups and first-time homebuyers were priced out of the traditional single-family housing

market in the early 1980's. The interplay of these factors led to a search for alternatives to traditional single-family housing. Condo-

miniums, mobile homes, and manufactured housing are among the alternatives that are present today.

Table 9.3.16

Families and Individuals Below Poverty Level, 1989 and 1999

	Poverty Status in 1999			
	Families	%	Individuals	%
Merced	3,296	22.4	17,489	27.9
Merced County	8,481	16.9	45,059	21.7
	Poverty Status in 1989			
	Families	%	Individuals	%
Merced	2,717	20.2	13,804	25.1
Merced County	6,765	15.4	34,813	19.9

Source: U.S. Bureau of the Census, 1990 and 2000 Census of Population and Housing

Condominiums

Condominiums have been offered as a moderately priced, low-maintenance housing alternative for single, retired persons, "empty nesters," and urban professionals. This type of housing has enabled a larger segment of the population to achieve home ownership. However, monthly fees for exterior maintenance, management, and other common services often increase monthly costs, negating some of the savings derived from the relatively lower selling price of certain condominiums.

There are very few condominium units in the Merced City limits. The 1990 U.S. Census indicates 341 Renter-Occupied condominium units and 153 Owner-Occupied condominium units for a total of 494 (2.3 percent of all housing units) condominium units in the City. Trends since the mid-1980's are not available because the condominium market has been inactive. The 2000 U.S. Census data for condominiums is not available.

Mobile Homes

Mobile homes are a relatively inexpensive housing alternative. Since mobile homes are prefabricated, they require less on-site labor than construction of a conventional house. Buyers of mobile homes include not only the elderly, but also working families and individuals who choose this alternative over traditional single-family residences.

U.S. Census data shows there were 565 mobile homes and trailers, or 3.0 percent of the total housing units within Merced in 1990. U.S. Census data estimates there were 700 mobile homes in the year 2000, which was 3.2 percent of the total housing units in Merced.

Manufactured Housing

Manufactured and factory-built homes offer another option for inexpensive housing. All manufactured homes built since 1976 must conform to the National Manufactured Home Construction and Safety Standards, a national uniform building code commonly

called the “HUD Code,” and administered by the U.S. Department of Housing and Urban Development.

The HUD code regulates home design and construction, durability, fire resistance, energy efficiency, and the installation and performance of heating, plumbing, air conditioning, thermal and electrical systems.

Many manufactured homes are indistinguishable from their site-built counterparts in construction and appearance. In California, over 60 percent of new manufactured homes sold are sited on lots in urban, suburban or rural neighborhoods. Facilitating this opportunity are state laws (Government Code Sections 65852.3 and 65852.4), which allow manufactured homes to be sited on any residential lot, providing the home meets local development standards.

Also, pursuant to California Civil Code Section 714.5, covenants, conditions and restrictions adopted on or after January 1, 1998 cannot forbid the siting of a manufactured home on a residential lot, as long as the home can meet the same architectural standards as site-built homes in the neighborhood.

Today’s manufactured homes are growing in popularity for local governments and redevelopment agencies for use in urban infill and redevelopment projects. Manufactured housing is attractive for this use because of its cost effectiveness and the ability to design a home compatible with the local neighborhood that will fit in any lot with relative ease.

The number of manufactured and factory built homes in Merced is unknown because there are no statistics available.

9.3.6 Existing Housing Conditions

This section of the Housing Element provides a description of existing housing conditions within the City of Merced, based on the recently completed 2003 Housing Quality Sample Survey. The survey was conducted within the City limits of Merced by Quad Knopf to provide a general overview of housing stock in the area.

Housing Quality

Housing quality is measured by accepted standards of health and safety concerns and issues. Deteriorating conditions left unchecked, allow for the possibility of physical harm to residents and guests. It is important that the City be aware of deferred maintenance conditions for the protection of all, and when cross referenced with income data, such information can help determine potential resources to address the problems.

Survey Criteria

An important element of the City of Merced’s Housing Element Update development included obtaining current information regarding housing conditions.

Structural integrity of area housing stock was surveyed according to accepted protocol of the State Department of Housing and Community Development. A point rating system was assigned to various levels of structural deficiencies pertaining to such items as the foundation, roofing, siding, windows, and electrical as can be viewed from the street. Points increased with the degree of deficit relating to maintenance and upkeep of the soundness of the housing unit. One of five categories are assigned by the points achieved:

Points Rating Category

9 or less	Sound
10-15	Minor repair needed
16-39	Moderate repair required
40-55	Substantial rehabilitation required
56 and over	Dilapidated and needs replacement

The total number of housing units was counted in each Census Tract and a percentage of that total was derived and surveyed for each Census Tract. The resulting data was tabulated for analysis. The sample size exceeded the minimum number of surveys required by HCD. The sample survey was used as the basis for estimating the city as a whole.

Housing conditions in the City of Merced rated sound, with a few minor exceptions.

Referencing Table 9.3.17 approximately 95 percent of the housing units surveyed were rated sound; 4 percent were rated having minor repairs needed; less than 1 percent were rated as having moderate repairs needed; 0.0 percent were rated as having substantial repairs needed; and .3 percent were rated as having dilapidated conditions. Overall, the majority of the City of Merced's existing housing is in sound condition.

Overcrowded Housing Units

Although there is more than one way of defining overcrowded housing units, the definition used in the Housing Element is 1.01 or more persons per room, the same definition used in the 2000 U.S. Census and in the 1990 U.S. Census. It should be noted that kitchenettes, strip or Pullman kitchens, bathrooms, porches, balconies, foyers, halls, half-rooms, utility rooms, unfinished attics, basements, or other space for storage are not defined as rooms for Census purposes.

Table 9.3.17

Existing Housing Conditions Survey City of Merced

Rating	Survey Results		Total Estimated Citywide
	Number	Percent	
Sound	752	95.5	20,562
Minor	29	3.7	796
Moderate	4	0.5	108
Substantial	0	0.0	--
Dilapidated	2	0.3	66
Total	787	100.0	21,532

Source: 2003 City of Merced Existing Housing Conditions Survey

Overcrowded households are usually a reflection of the lack of affordable housing available. And, as indicated in the analysis of Lower Income and Poverty levels

described earlier, the increase of households falling in the lower income levels restricts their ability to obtain larger housing units. Households that cannot afford housing units

suitably sized for their families are often forced to live in housing that is too small for their needs, which may result in poor physical condition of the dwelling unit.

Table 9.3.18 indicates that in 1990, overcrowding was present in 16.9 percent (3,087 units) of the total Occupied Housing Units as identified by the 1990 U.S. Census. In 2000, overcrowding increased to 20.2 percent (4,128 units) of the total Occupied

Housing Units. This was a 3.3 percentage point increase from 1990 to 2000.

Table 9.3.18 also identifies overcrowding by tenure in Merced in 1990 and 2000. The percentage of overcrowded Owner-Occupied Housing Units in Merced in 1990 was 6.0 percent and increased to 10.1 percent in 2000. The percentage of Overcrowded Renter-Occupied Housing Units in Merced in 1990 was 25.6 percent and increased to 28.8 percent in 2000.

Table 9.3.18

**Overcrowded Housing Units by Tenure
City of Merced, 1990-2000**

Occupants Per Room	2000			
	Owner-Occupied		Renter-Occupied	
	Number	Percent	Number	Percent
1.00 or Less	8,510	89.9	7,842	71.2
1.01 to 1.50	457	4.8	1,192	10.8
1.51 or More	502	5.3	1,977	18.0
Occupants Per Room	1990			
	Owner-Occupied		Renter-Occupied	
	Number	Percent	Number	Percent
1.00 or Less	7,663	94.0	7,532	74.4
1.01 to 1.50	273	3.3	820	8.1
1.51 or More	223	2.7	1,771	17.5

Source: 1990 and 2000 U.S. Census

These conditions may be attributable to circumstances such as extended family members sharing the residence or larger families unable to purchase homes of adequate size to accommodate need.

9.3.7 Housing Costs

Several types of data are available that can be used to assess changing housing prices. They include median housing value, rental cost and rental cost in terms of available

income. Other types of data include costs of housing production (including land and materials, development costs, City fees, etc.), housing sale prices for new and existing homes, the cost of financing, and financing options. Merced's housing costs are discussed later in this section.

Housing Value

Table 9.3.19 indicates median housing value for owner-occupied housing units for

Merced, Merced County and California. Value is defined as the Census respondents' estimate of the amount for which property, including house and lot, would sell if it were on the market at the time of the survey. The data concludes that in Merced at the time of the 2000 Census, the median value for owner-occupied units was \$106,400. Merced County had a higher median

(\$111,100), and California had a significantly higher median at \$211,500. The percentage increase from 1990 to 2000 in Merced for Median Value Owner-Occupied Housing was 17.8 percent compared to 23.3 percent and 8.9 percent respectively for Merced County and California.

Table 9.3.19

Median Value for Owner-Occupied Housing, 1990-2000

Area	1990-2000		
	1990	2000	Increase (%)
Merced	90,300	106,400	17.8
Merced County	90,100	111,100	23.3
California	194,300	211,500	8.9

Source: U.S. Bureau of the Census, 1990 and 2000 Census

Table 9.3.20 indicates the value of Owner-Occupied Housing Units within Merced in 2000. Of the 8,528 Owner-Occupied units, 3,668 (43.0 percent) were in the \$50,000 to \$99,999 price range, and 3,310 (38.8

percent) were in the \$100,000 to \$149,999 price range. There were 98 units (1.1 percent) valued at \$50,000 or less, and 406 units (4.7 percent) were valued at \$200,000 or more.

Table 9.3.20

***Value of Owner-Occupied Housing Units
City of Merced, 2000***

Total Owner-Occupied Housing Units	Number	Percent
Less than \$50,000	98	1.1
\$50,000 to \$99,999	3,668	43.0
\$100,000 to \$149,999	3,310	38.8
\$150,000 to \$199,999	1,046	12.3
\$200,000 to \$299,999	318	3.7
\$300,000 to \$499,999	88	1.0
\$500,000 to \$999,999	N/A	N/A
\$1,000,000 or More	N/A	N/A

Source: U.S. Bureau of the Census, 1990 and 2000 Census

Rent

Gross rent is defined as the summation of rent, plus the estimated average monthly cost of utilities and fuels, if these items are paid for by the renter. The 2000 Census estimates that gross rent in Merced in 2000 was \$509. A search of apartments for rent on February 21, 2003 in the Merced Sun-Star revealed that rent for a 4-bedroom unit averaged approximately \$1,099. Rent for a 3-bedroom unit averaged \$861, a 2-bedroom unit was approximately \$606, and a 1-bedroom unit averaged \$487.

As illustrated in Table 9.3.21, median gross rent in Merced in 1990 was \$438 and

increased to \$509 in 2000 (16.2 percent increase). Merced County's median gross rent in 2000 was \$29 dollars higher than Merced's, at \$518. California's median gross rent in 2000 was significantly higher than that of both Merced and Merced County's, at \$747. The significant difference in median gross rent between the State of California and Merced can be attributed to lower land costs in the Central Valley compared to the larger urban areas of the State. These lower land costs have reduced the total cost of housing units and lots in Merced.

Table 9.3.21

Median Gross Rent, 1990-2000

Area	1990 Rent	2000 Rent
Merced	438	509
Merced County	430	518
California	620	747

Source: U.S. Bureau of the Census, 1990 and 2000 U.S. Census

Table 9.3.22 shows Gross Rent by Specified Renter-Occupied Units and price range in Merced in 2000. The percentage of renters paying between \$300 and \$499 per month in gross rent in the year 2000 was 39.5 percent,

and 37.0 percent for those paying between \$500 and \$749 per month in gross rent. Only 4.5 percent of Merced residents were paying more than \$1,000 per month on gross rent.

Table 9.3.22

**Gross Rent by Specified Renter-Occupied Units
City of Merced, 2000**

Specified Renter-Occupied Units	10,998	Percent
Less than \$200	205	1.9
\$200 to \$299	620	5.6
\$300 to \$499	4,347	39.5
\$500 to \$749	4,069	37.0
\$750 to \$999	1,050	9.5
\$1,000 \$1,499	444	4.0
\$1,500 or More	50	0.5
No Cash Rent	213	1.9

Source: U.S. Bureau of the Census, 1990 and 2000 U.S. Census

Table 9.3.23 shows housing costs in Merced as a percentage of household income for renters. The 2000 Census data indicates

4,087 of 13,816 (30 percent) of lower-income renter households were paying 30 percent or more of their income on housing.

Table 9.3.23
Gross Rent as a Percentage of Household Income
City of Merced, 2000

Percent Paid for Rent	Percent of Population
Less than 15.0%	14.6
15.0 to 19.9%	13.5
20.0 to 24.9%	12.3
25.0 to 29.9%	10.4
30.0 to 34.9%	8.3
35.0% or More	36.9

Source: 2000 U.S. Census

Cost of Housing

U.S. Census data indicates the median value for a Specified Owner-Occupied Unit in 2000 in Merced was \$106,400. A search of all homes for sale in the local newspaper on February 21, 2003 indicated that the average asking price for a 3-bedroom home in Merced was \$180,000 and the average asking price for a 4-bedroom home was \$280,000. Not everyone selling a home advertises in the newspaper or with a realtor, therefore the actual average price for a 3-bedroom and 4-bedroom home for sale in Merced is probably lower. As with most communities, the location of the home is one of the biggest factors with regards to price. Compared to the rest of California, housing in Merced is still relatively affordable. However, housing is not affordable for all income levels, particularly the very-low and low-income households.

Compared to many California communities, home prices in Merced are not high. However, in relation to income levels in the City, they are very unaffordable.

Affordability of housing may be quantified in terms of the percentage of the gross household income a household spends for housing. Housing is considered unaffordable if a household spends 30 percent or more of its gross household income on housing costs. Table 9.3.24 shows monthly owner costs as a percentage of household income. According to the 2000 U.S. Census, 30.9 percent of lower-income Owner-Occupied Households spent 30 percent or more of their household income on housing. The households paying 30 percent or more of their income on housing (including utilities) are defined as having excessive housing cost burdens, or housing overpayments.

Table 9.3.24

**Monthly Owner Costs as a Percentage of Household Income
City of Merced, 2000**

Percent Paid for Mortgage	Percent of Population
Less than 15.0%	28.8
15.0 to 19.9%	15.8
20.0 to 24.9%	14.3
25.0 to 29.9%	10.4
30.0 to 34.9%	9.6
35.0% or More	20.7

Source: 2000 U.S. Census

The gap between household incomes and housing prices can be bridged in two ways: increasing incomes or decreasing prices. The first approach is the most attractive, but also the most difficult. Increasing incomes requires the development of jobs and a vibrant economy. While there is some promise for both of these in Merced (at least in the not-too-distant future) and while it is likely that incomes will increase for many in the City, there will continue to be a significant number of households in the community that are unable to afford a safe and decent home.

Figure 9.3.1 demonstrates the relative affordability issues in conjunction with earnings levels and average Merced housing costs for owners and renters.

The emphasis of the City of Merced Housing Element, and the Affordable Housing Action Plan upon which it is based, is on strategies for both decreasing the cost of housing in the City and improving the quality of the existing affordable housing stock. These strategies include proposed changes in City land use policies that impact the cost of housing construction, joint ventures between the City and private or non-profit developers to leverage public

funds for the construction of new affordable housing, and various financial strategies to reduce the costs of construction and mortgage financing for affordable housing projects and for low-income, first-time homebuyers.

While there is great hope for these efforts by the City and by other agencies at the county, state, and federal levels, it is unfortunately not realistic to assume that these efforts will rid the City of its present housing affordability problems. The City of Merced has, and will continue to have, a large population of lower household incomes, many who have special housing needs. While the City's efforts will help to alleviate the problem of affordability for many, it will persist as a problem in the community into the foreseeable future.

Special Housing Needs of Other Groups

Elderly

Various portions of the Housing Element describe characteristics of the elderly population, the extent of their needs for subsidized housing, complexes developed especially for that group, and City provisions to accommodate their need.

Figure 9.3.1

Wages and Affordability for Merced County

Merced County occupations with the greatest job growth projected to 2006 to be cashiers, heavy truck drivers, retail salespersons, paraprofessional teacher aides, general office clerks, and correction officers. The occupations with the most openings are cashiers, food preparation and service, waiters and waitresses, compliance/enforcement inspectors, landscaping/groundskeeping laborers.

Position	Salary/Wage		Rent			Own			
	Mean Hourly	Monthly	Avg. Mo. Cost	Affordability	Deficit	Avg. Price	Mo. Cost ¹	Affordability	Deficit
General and Occupations Managers	\$35.78	\$5,724.80	\$518	\$1,717.44	\$1,199.44	\$111,100	\$633	\$1,717.44	\$1,084.44
Accountants	\$24.19	\$3,870.40	\$518	\$1,161.12	\$643.12	\$111,100	\$633	\$1,161.12	\$528.12
Elementary School Teachers	-	\$3,833.08	\$518	\$1,149.93	\$631.93	\$111,100	\$633	\$1,149.93	\$516.93
Registered Nurses	\$23.88	\$3,820.80	\$518	\$1,146.24	\$628.24	\$111,100	\$633	\$1,146.24	\$513.24
Loan Officers	\$22.72	\$3,635.20	\$518	\$1,090.56	\$572.56	\$111,100	\$633	\$1,090.56	\$457.56
Compliance Officers (Except Agricultural, Construction, Health and Safety, and Transportation)	\$17.03	\$2,724.80	\$518	\$817.44	\$299.44	\$111,100	\$633	\$817.44	\$184.44
Heavy Truck Drivers	\$15.84	\$2,534.40	\$518	\$760.32	\$242.32	\$111,100	\$633	\$760.32	\$127.32
General Office Clerks	\$10.32	\$1,651.20	\$518	\$495.36	-\$22.64	\$111,100	\$633	\$495.36	-\$137.64
Medical Assistants	\$10.27	\$1,643.20	\$518	\$492.96	-\$25.04	\$111,100	\$633	\$492.96	-\$140.04
Retail Salespersons	\$10.16	\$1,625.60	\$518	\$487.68	-\$30.32	\$111,100	\$633	\$487.68	-\$145.32
Agricultural Equipment Operator	\$9.41	\$1,505.60	\$518	\$451.68	-\$66.32	\$111,100	\$633	\$451.68	-\$181.32
Cashiers	\$9.06	\$1,449.60	\$518	\$434.88	-\$83.12	\$111,100	\$633	\$434.88	-\$198.12
Combined Food Prep and Service	\$7.27	\$1,163.20	\$518	\$348.96	-\$169.04	\$111,100	\$633	\$348.96	-\$284.04

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Based on affordability measure of 30% of income for housing costs.

¹Does not include Property Tax, Insurance, and Utilities

Sources: EDD Occupational Openings and Declines and Occupations with Greatest Growth, 1999-2006, EDD Occupational Employment and Wage Data, OES Survey Results, 1-2003, U.S. Census, and Merced Realty Agencies.

According to Table 9.3.25, the number of Householders 65 Years and Over in Merced in 1990 was 3,199 and 3,796 in 2000. The

County's number of Householders 65 Years and Over in 1990 was 10,393 and increased to 12,289 in 2000.

Table 9.3.25

*Elderly Householders by Owner and Renter
Merced and Merced County, 1990-2000*

	Age 65+ Householders	Owner Occupied Age 65+ Householders	Percent of All Householders	Renter Occupied Age 65+ Householders	Percent of All Householders
2000					
Merced	3,796	2,571	67.7	1,225	32.3
Merced County	12,289	9,553	77.7	2,736	22.3
1990					
Merced	3,199	2,098	65.6	1,101	34.4
Merced County	10,393	7,899	76.0	2,494	24.0

Source: U.S. Census Bureau, 1990 and 2000 Census

Referencing Table 9.3.25, in 2000 there were approximately 2,571 Owner-Occupied Elderly Householders age 65 or older within the City of Merced (67.7 percent of age 65 and over Householders) compared to 1990's 2,098 Elderly Householders (65.6 percent of ages 65 and over householders). The number of Renter-Occupied Elderly Householders 65 years and over in Merced was 1,225 (32.3 percent of age 65 and over householders) in 2000 and 1,101 (34.4 percent of age 65 and over householders) in 1990.

Merced had a lower percentage of Owner-Occupied Elderly Householders in both 1990 and 2000 than Merced County. The elderly prefer affordable units in smaller single-story structures, close to health facilities, services, transportation and entertainment.

The issue of affordability is of particular importance to seniors because they usually

live on fixed incomes. As housing costs rise, the cost burden on senior households increases. In 1999 in Merced, 10 percent (568 individuals) of individuals 65 years and over were living below the poverty level.

Large Households

Large Households are defined as those households containing five or more persons. Income is a major factor that constrains the ability of households to obtain adequate housing. Larger units are more expensive and most of the units with more than three bedrooms are single-family homes, instead of multi-family rental units, and not usually abundantly available.

Table 9.3.26 provides 1990 and 2000 comparative information on the number and percentage of Large Households within Merced and Merced County.

Table 9.3.26

Large Households, 1990-2000

	1990 Number of Large Households	1990 Percent of Total Households	2000 Number of Large Households	2000 Percent of Total Households
Merced	3,200	15.7	3,970	19.4
Merced County	10,999	17.2	14,559	22.8

2000				
	Owner-Occupied		Renter-Occupied	
	Number of Large Households	Percent of Large Households	Number of Large Households	Percent of Large Households
Merced	1,573	39.6	2,397	60.4
Merced County	7,655	52.7	6,884	47.3

Source: U.S. Census Bureau, 1990 and 2000 Census

Between 1990 and 2000, the number and percentage of Large Households in Merced and Merced County increased. In 1990, there were 3,200 (15.7 percent) Large Households in Merced and by 2000, the number of Large Households increased to 3,970 (19.4 percent). Merced County had a higher percentage of Large Households than Merced in both 1990 and 2000.

Low incomes, rising housing costs, and few 4-bedroom or larger units account for the number of Large Households and incidence of overcrowding in Merced. Referencing Table 9.3.27, only 11.4 percent of all

housing units in Merced have four or more bedrooms.

Number of Bedrooms

Table 9.3.27 shows housing units in the City of Merced by the number of bedrooms. Three bedroom homes are the most common in Merced at 32.3 percent. The percentage of housing units with four bedrooms is 10.6 percent of the total, and the percentage of housing units with five bedrooms or more is 0.8 percent of the total. The low number of five-bedroom or more housing units ties in with the percentage of Large Families (26.7 percent) and overcrowding (20.2 percent).

Table 9.3.27

*Number of Bedrooms
City of Merced, 2000*

Bedrooms	Total	Percent
No bedroom	2,048	9.5
1 bedroom	3,893	18.1
2 bedrooms	6,212	28.8
3 bedrooms	6,953	32.3
4 bedrooms	2,274	10.6
5 or more bedrooms	164	0.8
Total	21,544	100.0

Source: 2000 U.S. Census

The Census reports 4,128 overcrowded housing units, 3,911 Large Families and only 2,438 four and five bedroom units. It is evident that further efforts are required to provide more 4 and 5 bedroom units.

Single Parent Households

Female-Headed Households. According to the McAuley Institute, nationally (2002), the median earnings of women are only 76 percent of that of men, and the wage gap for Latinas was 56 percent. Wage and other inequities translate into higher poverty rates

for women. Table 9.3.28 identifies Total Households in Merced and Merced County, Female-Headed Households with No Husband Present, and Female-Headed Households with Own Children Under 18, No Husband Present. Of the 20,435 households in Merced, 3,726 (18.2 percent) are Female-Headed with No Husband present and 2,591 (12.7 percent) are Female-Headed with Own Children and No Husband present. Merced County's percentage of Female-Headed Households is lower than Merced's at 14.1 percent.

Table 9.3.28

Female Headed Household, 2000

2000	Total Households	Female Headed Households No Husband Present	Percent of all Households	Female Headed Households With Children Under 18, No Husband Present	Percent of all Households
Merced	20,435	3,726	18.2	2,591	12.7
Merced County	63,815	9,013	14.1	5,876	9.2

Source: U.S. Bureau of the Census, 2000 Census

Note: Female Headed Households No Husband Present includes those with children under 18, No Husband Present.

Male-Headed Households. Table 9.3.29 indicates Male-Headed Households with and without children within Merced and Merced County in 2000. Male-Headed Households in Merced with No Wife Present totaled 1,261 (6.2 percent), and Male-Headed Households with their Own Children and No Wife Present totaled 753 (3.7 percent). Merced County's percentage of Male-Headed Households with or without children was almost identical to the City's. Although

the housing needs of Female-Headed Households are usually greater than those of Male-Headed Households, it is important to recognize the housing needs of both groups because Male-Headed Households also have only one income and a need for child care services. A larger percentage of Female-Headed Households have children and females typically have lower incomes than males.

Table 9.3.29

Male Headed Households, 2000

2000	Total Households	Total Male Headed Households No Wife Present	Percent of all Households	Male Headed Households With Own Children Under 18, No Wife Present	Percent of all Households
Merced	20,435	1,261	6.2	753	3.7
Merced County	63,815	3,893	6.1	2,324	3.6

Source: U.S. Bureau of the Census, 2000 Census

Note: Male Headed Households No Wife Present includes those with children under 18, no wife present.

Farm Workers

Farm workers provide an essential contribution to the agricultural economy of Merced County. Merced County ranks fifth in the state in value of agricultural production.

The farm worker population experiences a distinct set of issues contributing to housing challenges, including seasonal income fluctuations, very low incomes, and a severe deterioration of existing housing stock. Among the farm worker population, there are several different groups - each with its own housing problems.

Farm worker characteristics are difficult to determine due to a lack of data regarding farm workers. This deficiency is caused by

several contributing factors, potentially including limited English speaking abilities, low educational attainment levels, and a distrust of government agencies, including those who work for the Census Bureau.

Regular or year round farm workers are defined by the Employment Development Department as those working 150 or more days for the same employer. Seasonal workers are those who work less than 150 days annually for the same employer. Migrant seasonal workers are defined as those who travel more than 50 miles across county lines to obtain agricultural employment.

The 2000 U.S. Census estimates that there were approximately 6,529 workers employed in Agriculture in Merced County,

about 30 percent lower than the 1990 level (9,405). This figure includes farmers and members of their families who were unpaid; regular and seasonal hired domestic workers; and agricultural workers brought to California under contract from outside the United States.

Farm workers have the lowest annual household income of any occupation surveyed by the U.S. Census, (source: Farm Workers in California, July 1998). In 1998, farm workers who worked in food crops earned, on average, \$6.26 per hour, (source: Employment Development Department). The problem of low hourly wages is compounded by the seasonal nature of agricultural employment, resulting in farm workers' inability to compete for housing on the open market.

The Housing Authority of the County of Merced manages four migrant housing centers in the County, totaling 255 units, which are available in the summer season only. These units are reserved for farm workers only. The total number of units and center locations are:

- 62 units, Atwater/Livingston
- 50 units, Merced
- 56 units, Los Banos
- 87 units, Planada
(Unincorporated Merced County)

In 2000, agricultural employment in the City of Merced accounted for 4.4 percent of the total workers in the farming industry. According to MCAG's Regional Housing Needs Plan, assuming that farm workers' assisted housing need is equal to their proportion of the labor force, it can be estimated that 160 assisted housing units are

currently needed. Based on that estimate, that need is assumed to be met considering the 255 units offered by the Housing Authority as listed above. This was confirmed by Housing Authority representatives on the City's Housing Element Task Force.

The quantitative aspects of farm worker demand for housing is often overshadowed by the qualitative characteristics of the housing they occupy. Because most farm worker families have low or very low incomes, the segment of the housing stock they occupy is typically substandard (and as previously mentioned, overcrowded). Many farm labor residences within the City of Merced consist of mobile homes, trailers, and literal "sheds" that are typically in substandard conditions. The alleyways of south Merced give testimony to similar housing conditions.

Disabled Population

U.S. Census data for 2000 indicated that for individuals between the ages of 21 and 64, approximately 26.3 percent of this age group in Merced had some form or type of disability that may impede their ability to earn an adequate income or find suitable housing accommodations to meet their special needs. Therefore, many in this group may be in need of housing assistance. Households containing handicapped persons may also need housing with special features to allow better physical mobility for occupants.

The number of the Disabled Population in Merced between 21 and 64 years of age in 2000 was 8,449 (reference Table 9.3.30). The percent of the disabled population in Merced County between 21 and 64 years of age in 2000 was 24.3 percent of the County's total population. The percentage

of the total 1990 population in Merced (age 16 to 64 years of age) with a work disability was 8.4 percent compared to 8.6 percent for the County.

It is not possible to discern whether the area has attracted the increase in the disabled population or whether there has been an increase because the questions asked in the 2000 Census were different than the 1990 Census.

The 1990 Census asked people if they were prevented from working or limited in the amount or kind of work that they could do, if they had difficulties taking care of their personal needs - dressing, bathing, and so forth - and if they had a mobility problem. The 2000 Census asked whether people have blindness, deafness, or severe vision or hearing impairment, which does not always translate into a work disability. The 2000 Census also asked about substantial

Table 9.3.30

Disabled Population, 1990-2000

	1990 Non Institutionalized Persons With a Work Disability Age 16 to 64 Years		2000 Non Institutionalized Persons With a Work Disability Age 21 to 64 Years	
	Number	Percent	Number	Percent
Merced	2,800	8.4	8,449	26.3
Merced County	9,195	8.6	26,199	24.3

Source: 1990 and 2000 U.S. Census

limitations in physical activities, such as lifting things, getting around, difficulty learning, remembering or concentrating, and difficulty working at a job.

Additionally, many people with disabilities require supportive housing arrangements (i.e., housing where support services are readily available). This is particularly important for people with mental disabilities who are reentering the community from an institution and for people who have disabilities that make independent living difficult. In Merced, services for people with mental disabilities are provided by the Merced County Department of Mental Health. The department has the capacity to serve six individuals (women only) in supportive housing sites in the County.

The department also provides referrals to the Community Action Agency (CAA) and other organizations that provide motel vouchers and emergency shelter facilities. The department estimates that there are 400 people in the County with mental illnesses who are in need of supportive housing services of some type. The department works closely with other facility and service providers in the County, such as the Community Action Agency and the Rescue Mission (a county-based shelter) to ensure that clients receive housing and other supportive services, such as rehabilitation and training programs.

Clients who are served include people returning to the community from mental health institutions, veterans from Vietnam War, substance abusers, people with

schizophrenia, and people with mute disorders. There are currently no supportive housing units for persons leaving mental/physical health facilities in Merced County.

Social Security Disability Insurance (SSDI) family income equates to approximately two-thirds of the wage earners' recorded highest earnings. A disabled family person who earned \$30,000 a year receives \$21,204 annually from SSDI. The same earned income entitles a single disabled person to \$11,271 annually. Either scenario places the household in a lower-income category.

Homeless

The Merced County Community Action Agency completed a survey of service organizations that provide shelter services to homeless persons served in the City of Merced between January 1, 1999 and December 31, 1999.

The instrument used to gather subject data was pre-approved by the Region IX HUD office (Kim Ferguson, representative) in 1994 for the 1995 Consolidated Plan and was used again for the City of Merced 2000 Consolidated Plan. The survey instrument is distributed annually to all homeless service providers in Merced County; findings are aggregated and a summary report is published. The annual survey is conducted by the Merced County Community Action Agency, a non-profit corporation.

The following homeless service providers responded to the 1999 annual survey, representing a 98 percent response factor of all homeless shelter providers in Merced County.

<u>Agency</u>	<u>Population Served</u>
Merced County	Generally Homeless

Community Action Agency

Merced County Mental Health Department	Generally Homeless
A Woman's Place	Domestic Violence
Catholic Charities	Generally Homeless
Merced Rescue Mission	Men Only Homeless

The survey data represents actual homeless served in congregate shelters or motel rooms (vouchers) only. Unsheltered persons data is gathered only by Merced County Community Action Agency through annual street outreach and service activities aimed at identifying, counting and serving unsheltered homeless. Only those sheltered in the City of Merced are counted and data is representative of street homeless persons contacted. A duplication factor of 20% reduced the actual numbers gathered.

In order to extract data that reflects actual homeless served in the City of Merced, the following formulas were applied:

- Unduplicated Count: All data was aggregated and a 20 percent duplication rate was factored out of the total numbers presented. This ratio of duplication was achieved by identifying from each provider the number of inter-agency referrals where homeless services were previously provided yet further assistance was needed. The greatest rate of duplication exists between Merced County Community Action Agency (MCCAA) and the Human Services Agency (HSA), since all other providers serve specific subpopulations that do not primarily

receive service from either MCCA or HSA.

- b) Percent of County Total Homeless: The Human Services Agency, the largest provider of homeless services to families in Merced County, identified through internal assessment that 62 percent of the homeless families served in 1999 were residing in the City of Merced. MCCA, at point of contact, identifies where the homeless person receiving assistance had been residing prior to becoming homeless; a compilation of 1994 data revealed that 68 percent of those served identified the City of Merced as their area of residence.

Living With AIDS Management Program (LAMP) utilizes and assesses prior residence at point of contact for homeless services as well, and identified 72 percent of those served formerly resided in the City of Merced. The average of these percentages (71.66 percent) was applied to data received from all other respondents since they do not identify prior place of residence at

point of contact, or the data is collected but not reported in the 1994 or 1999 surveys.

- c) Subpopulations Reported: Providers of service to generally homeless persons do not collect information, either by voluntary declaration or requirement, regarding service needs for the homeless including: Severe Mental Illness, Alcohol/Other Drug Abuse, or SMI and Alcohol/Other Drug Abuse. Internal referrals are made to outside agencies that provide those specific services only upon request of such information. The percent of homeless who voluntarily identify themselves as any of the above three subpopulations is extremely low, and since no definitive method for counting these subpopulations exists, no data is presented in these findings. Nor is information available on the racial/ethnic characteristics of the homeless.

Survey Results. Table 9.3.31 shows a summary of data collected by agency/provider for homeless persons receiving shelter in the City of Merced during 1999.

Table 9.3.31

Homeless Persons Receiving Shelter in Merced, 1999

Agency	Homeless Families		Individuals (Not in Families)	
	Families	Persons	17 Yrs or Under	18 Yrs or Over
A Woman's Place	292	905	525	380
Catholic Charities	181	725	0	n/c
Rescue Mission	0	523	0	523
Community Action Agency	1,340	2,278	1,100	1,178
County Mental Health	139	375	154	221
Total	1,952	4,806	1,779	2,302

Source: City of Merced 2000 Consolidated Plan

Delimitations of Survey. During the survey period all sheltering facilities in Merced

County were located within the City of Merced; as were all services available to

homeless persons. Though data represents only those persons who declared their primary residence as the City of Merced, some consideration should be given to the magnet effect that is created by this condition. Further, self-declaration of primary residence may not be considered completely accurate.

Subpopulation data is sparse with regard to Severe Mental Illness Only, Alcohol/Other Drug Only and SMI and Alcohol/Other Drug Abuse homeless persons due to a lack of information from providers of service (i.e. hospitals, recovery centers, etc) regarding homeless persons in their facilities. Merced County Human Services Agency does not report specific numbers of homeless persons by City or unincorporated area within the County; the percent of homeless families and persons served by HSA during 1994 was determined by internal means unknown to the surveyor. The 75.1% factor was accepted as accurate based on declaration of this County agency.

Accuracy of Survey. The data presented in this report is derived from the survey data as defined herein and believed to be accurate to within one half of one percent.

Shelter Needs. Given that facilities and services for homeless persons within the City are currently provided by several non-City public and private service agencies, the City has not independently outlined any necessary funding for programs. However, to the extent possible, the City shall coordinate with these agencies to address needs of families/individuals that have been displaced from the housing market.

The public and private service agencies providing assistance to the homeless have indicated that an additional permanent

emergency shelter facility will be needed within the next five years given that the one existing facility is at capacity. The City is committed to exploring the feasibility of developing such a shelter facility within the next five years. The development of an emergency shelter requires the submittal of a CUP application and fee, with final approval by the Planning Commission. In addition, it is anticipated that the overall service needs of these various non-City service agencies will increase along with the anticipated increase of homeless persons within the next five years. *For additional information on a countywide basis, consult the County of Merced Continuum of Care Application 2003.*

Homeless Needs Funding. The current annual cost to run emergency and transitional homeless shelters is \$240,000 per year. It would cost an estimated \$500,000 to provide an additional permanent emergency shelter. Merced is not currently providing any direct homeless assistance, and thus has not identified any specific homeless shelter activities. However, the City is committed to working with both private and public homeless service agencies should they request such assistance in the future after exploring the availability of matching funds to fully finance a particular activity. The City provided over \$30,000 to fund the County's homeless shelter during winter months. Such funding issues will be addressed as part of the development of a Continuum of Care Strategy.

UC Merced

The UC Merced campus, currently under construction has projected population of students, faculty and staff full-time equivalents (FTE) through 2008-2009 and these are shown in Table 9.3.32.

Based on trends of most California college towns, approximately 40 percent of the residential needs to serve students and staff

are met through the development of multi-family complexes.

Table 9.3.32

University of California, Merced Campus Projections

Population	2004/5	2005/6	2006/7	2007/8	2008/9
Undergraduate	900	1,801	2,519	3,238	3,957
Graduate	100	208	291	374	457
Faculty	100	149	194	241	285
Staff	400	596	757	940	1,112
Total	1,500	2,754	3,761	4,793	5,811

Source: UC, Merced Long Range Development Plan

The campus, at build out will provide housing for approximately 50 percent of the student body with the remainder living in Merced and surrounding communities. Projections calculated in the *Economic Background Report* by Economic and Planning Systems, Inc. (3/27/00) estimate a demand of 1,244 off-campus housing units by 2005-6, growing to 3,187 by 2010-11.

The Long Range Development Plan (LRDP) notes that projections for on-campus housing could vary in that housing on campus is not state funded, nor do some students that are offered on-campus housing choose to live there. Any reduction in planned on-campus housing would of course affect off-campus housing demand.

9.3.8 Financing Costs

One of the most significant factors related to the provision of adequate housing for all segments of the population is the availability of affordable financing. Effective mortgage interest rates for the years 1990 through 2002 can be found in Table 9.3.33. Throughout the 1990s, interest rates were less than nine percent on 30-year fixed-rate

mortgages, and in 2001 and 2002 they have been lower than seven percent.

As of January 2000, a household with a median monthly income of \$2,961 could theoretically afford a monthly housing cost of \$987 at the three-to-one income-to-payment ratio, an amount exceeding the \$633 payment required for the purchase of a median priced home valued at \$111,100 (2000 median sales price for existing homes in Merced) and financed at 6.00 percent interest with a five percent down payment. When interest rates are raised to 10.0 percent, the monthly housing payment would increase to \$962.

The annual average interest rate has been below 9.25 percent since 1991 and now stands at approximately 6.00 percent. The National Association of Homebuilders has forecast a fixed-rate interest of 6.3 percent for 2003.

9.3.9 Mortgage Lending Trends in California

Currently, the mortgage lending market is enjoying a boom in refinancing, the biggest

since 1998, which encourages some to predict that lower housing costs will free up

consumer dollars for other uses, including remodeling.

Table 9.3.33

*Effective Rate on Conventional Home Mortgage Loans
Annual Averages, 1990-2002*

Year	Annual Average
1990	10.13
1991	9.25
1992	8.39
1993	7.31
1994	8.38
1995	7.93
1996	7.81
1997	7.6
1998	6.94
1999	7.44
2000	80.5
2001	6.97
2002	6.54

Some economists believe that lowered consumer confidence will cause some buyers to shy away from purchasing a home, while others believe that the low interest rates promised by the shaky economy will prove to be too irresistible not to buy.

As of January 2003, the national average first-year interest rate on adjustable rate mortgages or ARMs, stood at approximately 4.62 percent. That was approximately 40 percent below the average rate of 6.54 percent on a 30-year fixed-rate loan. The ARM has an advantage over the fixed rate: it could stay below the lifetime cap. But the hope of saving money with an ARM often does not compensate for the risk of defaulting, should interest rates rise. The guiding principle in using ARMs prudently is to ensure that borrowers can afford the worst-case interest rate or cap.

Typical Loan

Loan Amount

- \$100,000 to \$125,000

Down Payment

- Ten percent or more/10,000 on a 100,000 loan.

Average Interest Rate

- Six percent

Average Loan Fees

- One and a half percent plus one point. Loan fees and points are typically paid by the buyer.

Monthly Payment

- \$664 a month on a \$125,000 house with 10 percent down, and a 30-year loan (not including insurance and property tax).

The monthly payment on a \$125,000 house with a five percent down payment and 30-year loan would be \$701 per month.

9.3.10 Opportunities for Energy Conservation

Affordable energy is an essential component of affordable housing. Depending on the age and condition of the home and on the type of fuel used, energy costs can represent more than 25 percent of overall housing costs.

In the past thirty years, rapidly increasing energy costs have contributed to the deterioration of housing affordability. Since 1970, average energy costs to consumers have increased 100 percent over and above inflation, while crude oil prices have increased more than 500 percent. In response to these increases, California's energy conservation standards have helped to improve energy efficiency in new homes. Houses built after 1975 use about half as much energy as homes built before then. Recent standards are even more strict.

Such improvements in energy conservation make important contributions to housing affordability. Minimizing energy used for space and water heating as well as air conditioning can significantly reduce home energy costs. Water heating is second only to space heating in total energy usage, according to Pacific Gas and Electric.

In addition to the state conservation standards, implemented as part of the 1988

Uniform Building Code, that reduce the cost of energy in new homes, there are also opportunities for energy savings in existing homes. Most residential structures can be retrofitted with conservation measures that provide nearly the same energy savings achieved in new construction. Many can also be retrofitted with passive design measures, such as the addition of a solarium or south-facing windows in conjunction with a heat storage mass.

The City of Merced Housing Rehabilitation Loan Program makes important contributions towards improving energy efficiency in older homes. Through low interest loans to low-income households, the program contributes to both minor and substantial rehabilitation that can significantly reduce home energy costs in both the short and long term.

The city-sponsored program is supplemented by other programs available from PG&E and the State. The PG&E "walk-through audit" provides a comprehensive assessment of energy conservation needs and costs related to home appliances, structural design and insulation. Home Improvement Funds are also available from PG&E to finance home energy improvements. In addition, the Low-Income Home Energy Assistance Program, funded by the State Department of Community Services and Development, is designed to help low income residents pay delinquent energy bills to avoid interruption of service.

9.4 LAND FOR HOUSING

This section responds to the requirements of Government Code Section 65583, which relates to the inventory/identification of available housing sites and opportunities for the provision of housing to all income segments within the community. The statute requires that a comprehensive review be undertaken by governmental and regulatory agencies of the community to inventory available sites, and to assess service and infrastructure capacities.

The City's ability to provide suitable housing that meets the needs of residents from all economic segments is largely dependent on opportunities within the community. These opportunities are determined primarily by the availability of sites that can accommodate a range of housing unit types. Housing opportunities are often tempered by constraints imposed by both the private and the public sectors. Land use controls and market conditions are addressed in Section 9.5.

9.4.1 Land Availability

Historically, Merced's growth has been predominantly to the north and is anticipated to continue in this direction into the future. The City's adopted *Merced 2030* scenario, "*The Northern City*", directs growth away from environmentally sensitive areas to the City's east and west and towards the lesser agricultural soils and grazing land to the north.

Additionally, because of the City's predominantly northern growth, the circulation system has, for many years, concentrated on moving traffic in a north-south direction. Since not as much attention has been paid to east-west circulation, there is not as much traffic-carrying capacity on east-west streets as on north-south streets. This would make it difficult to grow to the west or east given

the likely severe traffic impacts on existing streets and on the residents who live along them.

The City of Merced follows established standards for the development of housing in its boundaries. Criteria for assessing the suitability of housing sites is outlined below. These requirements are sometimes based on, or are a result of criteria set forth by public agencies such as the Department of Housing and Urban Development (HUD) or the Farmers Home Administration (FmHA); therefore, requirements imposed by these agencies are identified.

Table 9.4.1 shows the inventory of zoned vacant residential land within the City limits, sites having the potential for redevelopment, and sites undergoing and recently annexed. The table identifies vacant acres by zone, average and maximum dwelling units per acre, and average and maximum dwelling unit potential. All sites are presently served by infrastructure or will be during the planning period. Figure 9.4-1 illustrates those vacant parcels in the City limits of Merced and those areas adjacent to the City that are in the annexation process or have already been annexed. Figures 9.4.2a, b, and c illustrate vacant parcels in relation to existing water, sewer, and storm line drains. Dwelling unit per acre calculations were based on the average dwelling units per acre built to be both cost effective for the developer and allow for open space and streets. The amount of R-3 zoned land for the annexed areas was determined by the Development Plans and Specific Plans as approved by the City for each of the masterplanned areas as reflected in column headings in Table 9.4.1.

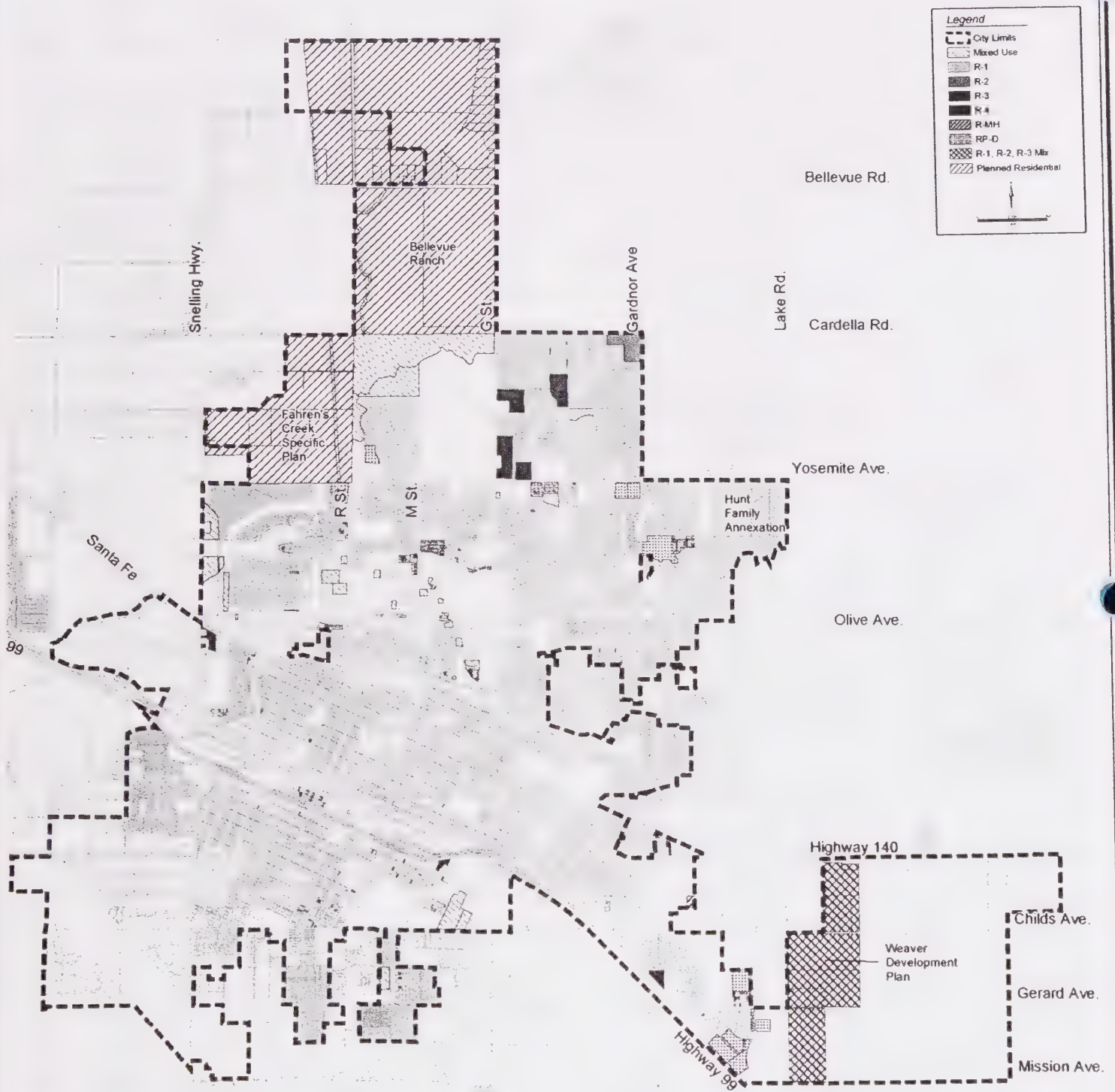


Figure 9.4.1

Vacant Parcels in the Merced City Limits

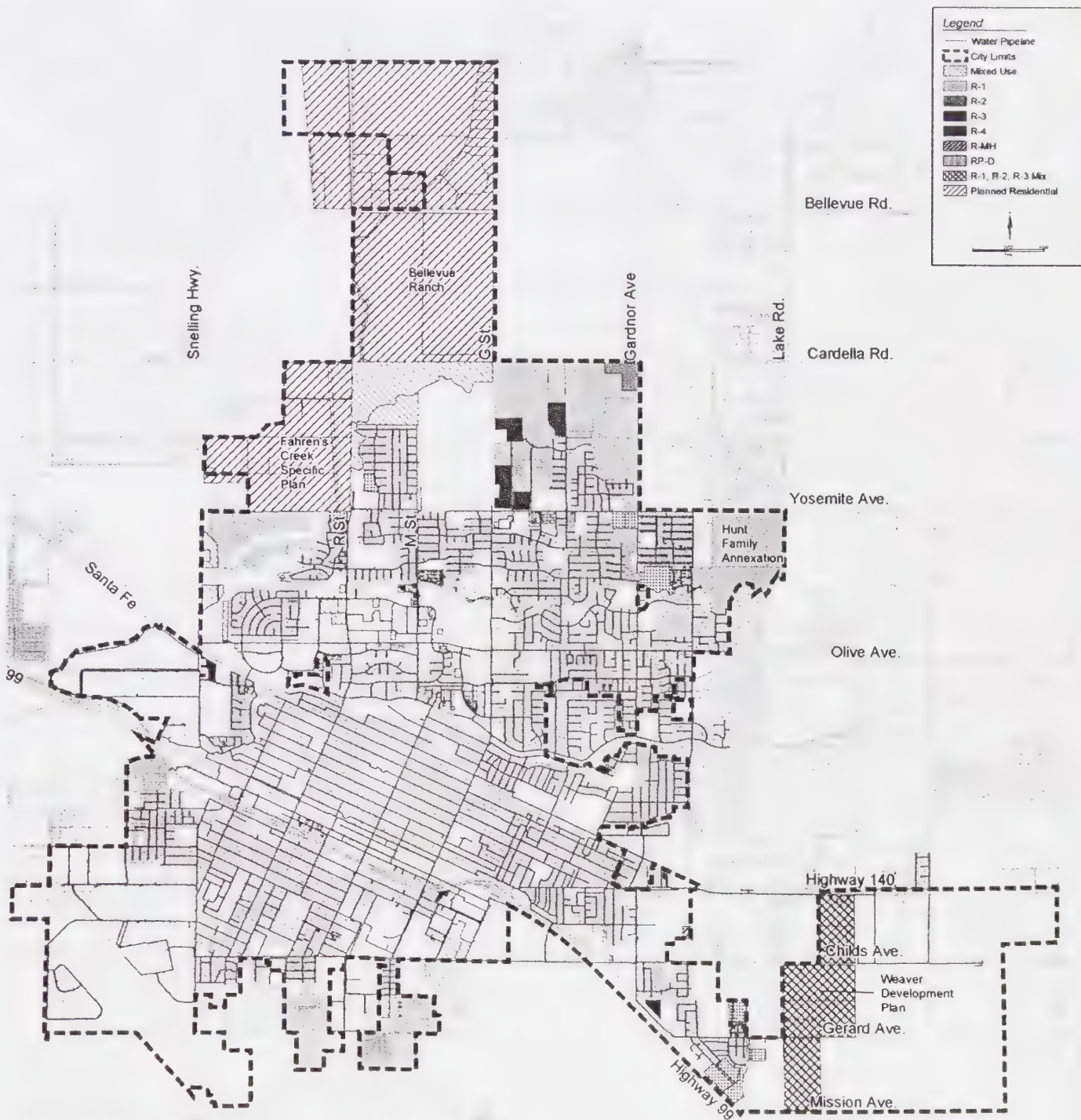


Figure 9.4.2a
*Vacant Residential Parcels
in Relation to Existing Water Lines*

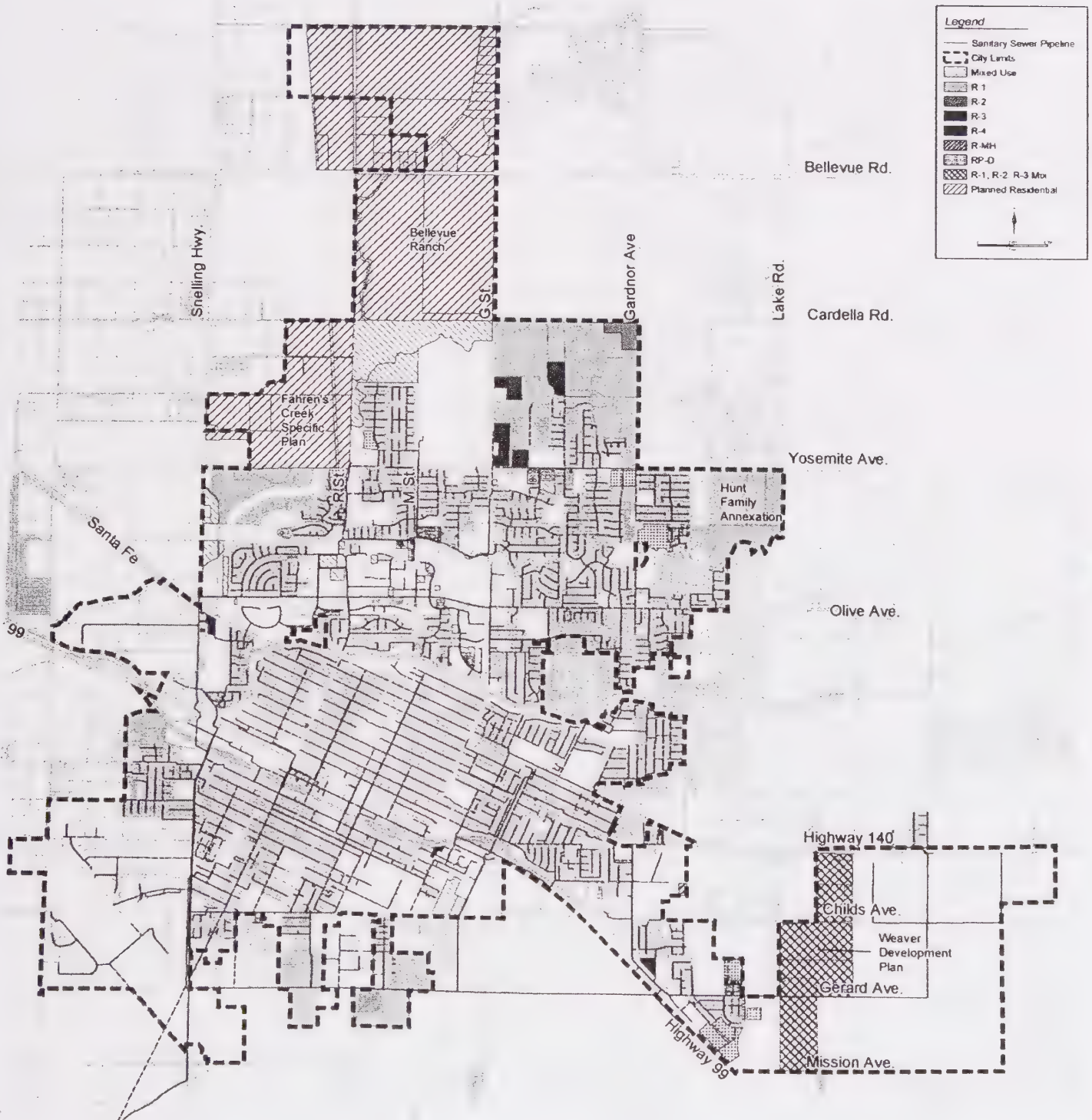


Figure 9.4.2b

***Vacant Residential Parcels
in Relation to Existing Sewer Lines***



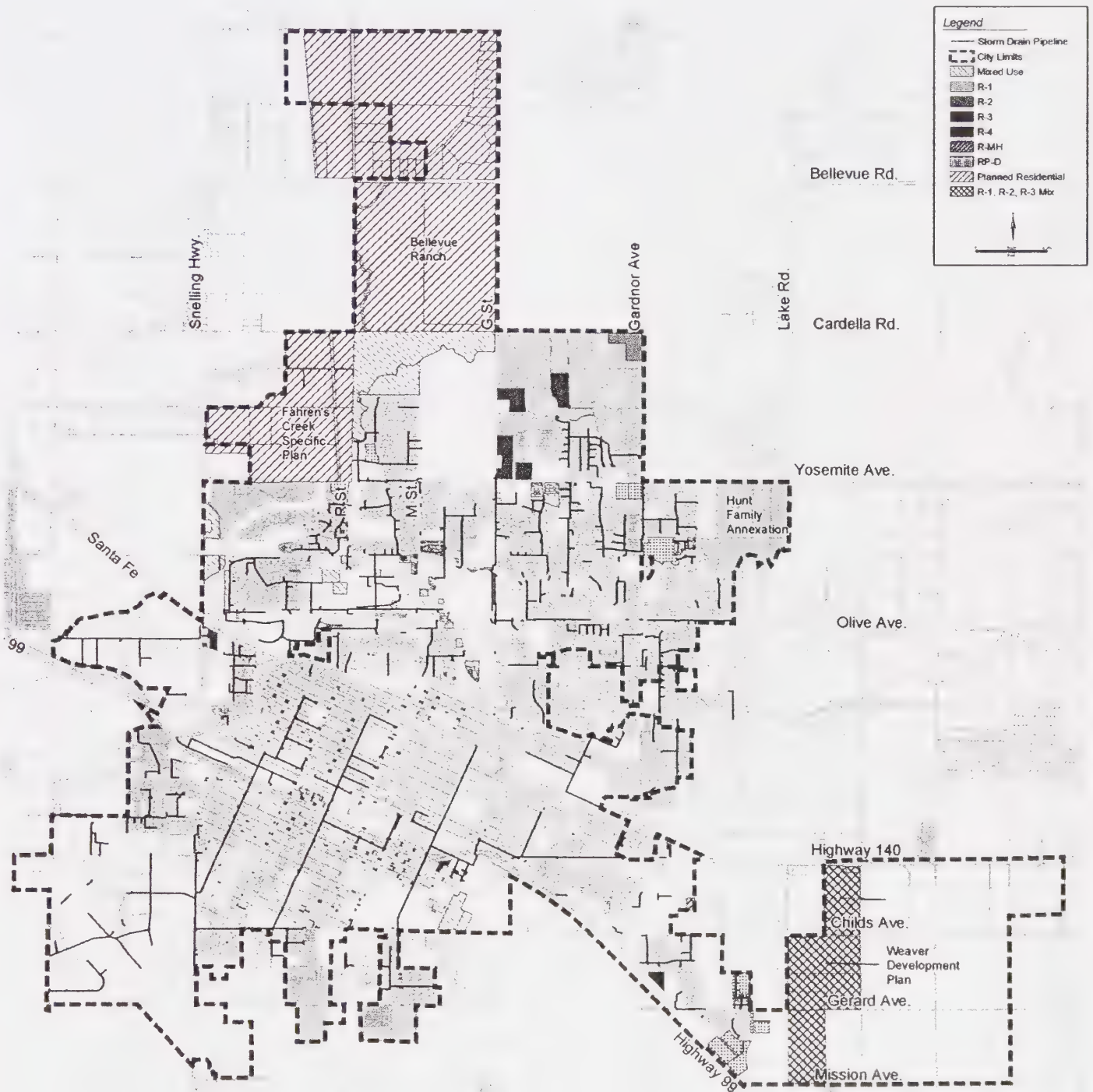


Figure 9.4.2c

*Vacant Residential Parcels
in Relation to Existing Storm Drain Lines*

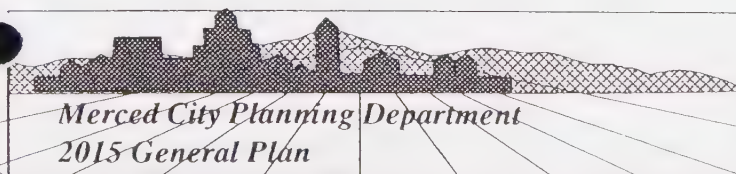


Table 9.4.1

Inventory of Vacant Land for Residential Development

Zone	Vacant Acres (City-Wide)	Average Dwelling Units Per Acre	Average ¹ Dwelling Unit Potential (City-Wide)	Bellevue Ranch Master Development Plan (Unit) (Potential)	Weaver Development Plan (Unit) (Potential)	Fahren's Creek Specific Plan (Unit) (Potential)	Hunt Family Annexation (Unit) (Potential)	Total ⁴ Acres in Master Plans (Acres)	Total ² Dwelling Unit Potential	Maximum Dwelling Units Per Acre	Maximum ³ Dwelling Unit Potential
LR (Limited Residential)	3.5	3.0	10	-	-	-	-	-	10	3.0	10
P-D (Planned Development)	367.4	4.2	1,543	-	-	-	-	-	1,543	4.9	1,800
R-1-20 (Low Density)	17.7	2.0	35	-	-	-	-	-	35	3.0	53
R-1-10 (Low Density)	5.6	3.0	17	-	-	-	-	-	17	4.0	22
R-1-6 (Low Density)	476.4	4.0	1,906	2,247	768	1,275	814	1,167	7,010	5.0	7,486
R-1-5 (Low Density)	106.7	5.0	534	-	-	-	-	-	534	6.0	640
R-2 (Low-Medium Density)	19.2	6.1	117	-1,837	35	-	-	4.4	1,989	12.0	2,219
R-3-1.5 (High-Medium Density)	16.0	12.1	194	-	-	-	-	-	194	24.0	385
R-3-2 (High-Medium Density)	66.5	12.1	805	759	772	927	-	188	3,263	22.0	3,921
R-4 (High Density)	1.0	24.1	23	-	-	-	-	-	23	36.0	34
R-MH (Mobile Home Park)	2.9	6.0	18	-	-	-	-	-	18	10.0	29
RP-D (Village Core Residential)	149.5	10.0	1,495	-	-	-	-	-	1,495	30.0	4,484
Total	1,232.3	N/A	6,696	4,843	1,575	2,202	814	1,359	16,130	N/A	21,083

Source: City of Merced

¹ Average Dwelling Unit Potential equals Vacant Acres multiplied by Average Dwelling Units Per Acre.

² Total Dwelling Unit Potential equals Average Dwelling Unit Potential plus units approved by the City under the Bellevue Ranch, Weaver, Fahren's Creek and Hunt Family Development Plans

³ Maximum Dwelling Unit Potential equals Vacant Acres multiplied by Maximum Dwelling Units per Acre plus Bellevue Ranch, Weaver, Fahren's Creek and Hunt Family approved units.

⁴ Total Acres of each zone within the Approved Bellevue Ranch, Weaver, Fahrens Creek, & Hunt Family Development or Specific Plans; [Bellevue = 561 ac. R-1; 334 ac. R-2, & 76 ac. R-3; Weaver = 160 ac. R-1, 4.4 ac. R-2, & 38.6 ac. R-3; Fahrens = 265 ac. R-1 & 73.7 ac. R-3; and Hunt = 181 ac. R-1]

The Bellevue Ranch Master Development Plan, Weaver Development Plan and Hunt Family Annexation have already been annexed into the City. The Fahren's Creek area will be annexed into the City by mid-November 2003.

The amount of land available for the development of housing is crucial in considering methods of meeting housing need. There must be sufficient vacant, residentially zoned land within the City limits or areas to be annexed that meets the projected housing needs through

2008. A determination of land availability was made from a careful review of Merced's Land Use Element.

This compilation resulted in an estimate of the amount of vacant land available for residential development. The projected housing construction need for Merced through July 1, 2008 is 4,666 units, as estimated by the Merced County Association of Governments (MCAG). Reference Table 9.4.2 for Merced's projected share of additional housing units by income group.

Table 9.4.2

Merced's Projected Housing Unit Needs by July 1, 2008 by Income Group

Income Group	Number	Percent
Very Low	1,073	23.0
Low	793	17.0
Moderate	887	19.0
Above Moderate	1,913	41.0
Total	4,666	100.0

At an average of 7.4 units per acre, 631 acres are needed. The City has 3,640 acres of planned residential vacant land within its limits and those areas to be annexed or in the annexation process, which is in excess of this requirement.

Table 9.4.1 shows dwelling unit potential by zoning classification within the City Limits of Merced. The vacant land designated for residential uses within the City could accommodate between 16,130 and 21,101 additional units. The vacant residentially zoned parcels in the City Limits vary in size and can accommodate major and minor subdivisions. Referencing Table 9.4.3, there are 231 vacant parcels in Merced's City limits which are 10,000 square feet

or less, 126 vacant parcels 10,000 square feet to one acre in size, 70 vacant parcels one to 10 acres in size and 29 vacant parcels 10 acres and larger.

Developers of affordable single-family units tend to seek parcels of 10 acres or larger to maximize on the economy of scale. The number of parcels of that size are included in Table 9.4.3. There are eight R-3 zoned parcels which are 10,000 square feet in size, infrastructure is available, and no other constraints exist on these vacant parcels.

The P-D areas facilitate lower-income residential development by permitting clusters of multi-family developments close to public transportation,

employment, and shopping. The P-D development capacity in Table 9.4.1 was determined by averaging the low density and high-density zones. The actual dwelling unit potential for the vacant parcels and master planned areas could be higher or lower.

The parcels currently in the annexation process are not yet zoned, although primarily designated for residential

development. Parcel sizes are depicted in Table 9.4.4. Table 9.4.1 shows that there are 759 units zoned R-3 in the Bellevue Ranch Development Plan, 772 units in the Weaver Development Plan, and 927 units in the Fahren's Creek Specific Plan. The three largest R-3 1.5 vacant parcels are 1.74 acres, 2.69 acres, and 5.07 acres in size. The three largest R-3-2 vacant parcels are 5.69 acres, 9.14 acres, and 19.7 acres in size.

Table 9.4.3

Vacant Parcels by Size and Zoning Within the City Limits

Zone	10,000 Sq. Ft. or Less	10,000 Sq. Ft. to One Acre	One to 10 Acres	10 Acre & Greater
LR (Limited Residential)	0	0	1	0
P-D (Planned Development)	27	16	35	11
R-1-20 (Low Density)	1	1	0	1
R-1-10 (Low Density)	0	7		0
R-1-6 (Low Density)	129	78	14	6
R-1-5 (Low Density)	5	0	4	5
R-2 (Low-Medium Density)	5	1	0	0
R-3-1.5 (High-Medium Density)	19	10	3	0
R-3-2 (High-Medium Density)	1	1	2	1
R-4 (High Density)	6	0	0	0
R-MH (Mobile Home Park)	0	0	1	0
RP-D (Village Core Residential)	38	11	10	5

Source: City of Merced

Table 9.4.4

Vacant Parcels by Masterplan and Size

	Zero to 1 Acre	1 to 5 Acres	5 to 10 Acres	10 Acres & Greater
Bellevue Ranch	0	4	8	10*
Fahren's Creek	3	1	2	10
Hunt Family Extension	0	0	0	4
Weaver Development	3	1	1	6

Source: City of Merced

*Bellevue Ranch parcels are primarily large and range from 12.5 to 283.7 acres for a total of 1,163 acres, 76 of which are zoned R-3.

UC Merced Impacts

Of the 2000 acres at the UC Merced campus, approximately 340 acres will be devoted to housing students and faculty. According to the LRDP Draft EIR, adequate land has been designated on the campus and the adjacent University Community to provide the number of housing units that would be required by the students, faculty, and staff at full development. Therefore, in the long run, the campus would not directly place a demand on housing resources in the region.

However, in the near term (opening day through 2010-11) the campus would house only about 50 percent of the student population, and the rest would need housing in the regional communities. Using the LRDP's 2010-11 enrollment level to estimate this demand for off-campus housing, an estimated 2,780 off-campus housing units would be required.

Table 9.4.4 shows vacant parcels by Masterplanned area and their size. All four Masterplanned areas are either in the process of being annexed into the City limits, are already annexed, or will be annexed into the City limits during

the planning period. In Bellevue Ranch, there are 17 vacant parcels 10 acres or larger. Fahren's Creek has 10 vacant parcels 10 acres and larger, the Hunt Family Extension has 4 vacant parcels 10 acres and larger, and the Weaver Development area has six vacant parcels 10 acres and greater in size. Those areas have not yet been zoned by the City of Merced, however, they are planned for residential use.

9.4.2 Utilities and Services

The ability of the community to provide adequate infrastructure and services (roads, water, sewer, etc.) to new housing developments is an important element in meeting future housing needs. Requirements that are placed on the developer to provide utilities and municipal services may prove restrictive when weighed with other construction/property costs and the return on housing investments in today's market. The section below provides an assessment of these utilities and public services, any limitations they may have, as well as a forecast for future development. This data was obtained primarily through interviews with local government, utility officials, and City reports. Figure 9.4.2 shows vacant residential parcels in

relation to existing water, sewer, and storm drain lines. Generally speaking, infrastructure is available to all currently zoned residential land within the City limits. The City also requires Master Plans to include an infrastructure timeframe and phasing component.

Water. Groundwater is the only source of water supply for the City. Eighteen wells with a combined capacity of 46,900 gallons per minute (gpm), or 67.0 million gallons per day (mgd), provide the City's total water supply. Currently, all wells are active production wells. This capacity can support approximately 120,000 residents.

The City's distribution system consists of four elevated storage tanks and the piping system. The distribution system consists of one pressure zone, with pipelines up to 16 inches in size. The water mains are primarily cast iron and ductile iron pipe. The City currently has a three to five year program to replace existing polyvinyl services with copper services.

Daily demand fluctuates throughout the year based primarily on seasonal climate changes. Water demands are significantly higher in the summer than the winter. System production facilities must be sized to meet the demand on the maximum day of the year, not just the average. The maximum day demand in 2000 was 36.5 mgd, in comparison to the total well production capacity of 67.0 mgd. The ratio between average and maximum day demands provides a maximum day peaking factor that can be used to scale annual demand projections to maximum day levels. The average maximum day peaking factor from 1997 to 2000 was 1.9.

According to the *Urban Water Management Plan, October 2001*, water demands through the year 2020 were estimated based on unit water use factors and housing and employment projections. By 2020, water demands are expected to increase by 71 percent, from 19.8 mgd [22,212 acre-feet per year (ac-ft/yr)] in 2000 to 36.8 mgd (41,209 ac-ft/yr) in 2020. This leaves a surplus of 30.2 mgd, not including any future wells/improvements between now and 2020. Impacts to water use due to any conservation measures implemented in the future are not reflected in the projected water demands.

Wastewater. Wastewater (sanitary sewer) collection and treatment in the Merced urban area is provided by the City of Merced. The wastewater collection system handles wastewater generated by residential, commercial, and industrial uses in the City.

The City Wastewater Treatment Plant (WWTP), located in the southwest part of the City about two miles south of the airport, has been periodically expanded and upgraded to meet the needs of the City's growing population and new industry. The City's wastewater treatment facility has a capacity of 10 mgd, with an average 1995 flow of 6.5 mgd to a peak approaching 8.0 mgd. This design capacity can support a population of approximately 77,000, an amount adequate to serve the 4,666 RHMA allocation.

Treated effluent is disposed of in several ways depending on the time of year. Most of the treated effluent (75% average) is discharged to Hartley Slough throughout the year. The remaining treated effluent is delivered to a land

application area and the on-site City-owned wetland area south of the WWTP.

The City has plans to expand its wastewater treatment plant as growth occurs. The proposed 10 mgd expansion would be accomplished in two phases of 5 mgd each to bring the plant's total capacity to 20 mgd. This capacity is expected to serve an estimated population of 150,000 as well as new business and industry. By 2010, Merced's projected population is estimated to be approximately 92,000. The collection system will also need to be expanded as development occurs.

Storm Water Drainage and Flood Control. The *Merced County Critical Area Flooding and Drainage Plan* addresses the collection and disposal of surface water runoff that originates in, or passes through, a 180-square-mile area, including the City's Specific Urban Development Plan (SUDP). The study addresses both the collection and disposal of storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve present and projected urban land uses. As the City grows, however, a more comprehensive system for addressing storm water discharge requirements and flood control will need to be developed.

The City requires the construction of storm water percolation/detention basins with new development. Percolation

basins are designed to collect storm water and filter it before it is absorbed into the soil and reaches groundwater tables. Detention basins are designed to temporarily collect runoff so it can be metered at acceptable rates into canals and streams which have limited capacity. The disposal system is mainly composed of Merced Irrigation District (MID) facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area. *The City of Merced Storm Drain Master Plan, April 2002*, provides additional information including: existing outfall facilities, cost estimates, phasing and priorities and mitigation of storm water quality.

Streets and Roads. Based on the standard rating system of A through F, the City's roadways generally meet D and above. At the current time, the circulation system in Merced is adequate except at peak hours, for the population size at this time. However, as housing is developed, the Circulation Plan will be reviewed.

As growth occurs, so will the need for improvements to the circulation system. The City will continue to work closely with Caltrans, the County, and MCAG in the future regarding important regional circulation issues. The *Merced Vision 2015 General Plan* identifies a number of roadway improvement projects including: new expressways, interchanges, ramp modifications, road class upgrades and extensions.

9.5 CONSTRAINTS TO HOUSING

The development industry is faced with a variety of constraints in the construction of new housing. These constraints limit the number and increase the cost of housing units, which are constructed and may be loosely classified as governmental and non-governmental, although there is a strong interrelationship between these factors. An analysis was made of the various constraints and suggestions made by the Task Force.

Section 9.4 discussed infrastructure availability and revealed that achievement of the RHNA will not be constrained by sewer, water, or road systems in the community. Other constraints are discussed in more detail in the following paragraphs.

9.5.1 Governmental Constraints

Prevailing Wages. Governmental constraints are potential and actual policies, standards, requirements, fees, or actions imposed by the various levels of government on development, which serve to ensure public safety and welfare with respect to housing construction and land use issues. Federal and state programs and agencies play a role in the imposition of non-local governmental constraints and are beyond the influence of local government, and therefore cannot be effectively addressed in this document.

Senate Bill 975 requires public works and affordable housing financed through the use of public funds to pay prevailing wages. Previous law generally defined “public works” to include construction, alteration, demolition or repair work done under contract and paid for in whole or in part out of public funds. This bill redefines “public works” to include any improvements that are

“paid for in whole or in part with public funds” including payments, transfers, credits, reductions, waivers, and performances of work, but does not include the rehabilitation of certain qualifying affordable housing units for low or moderate-income persons, as specified.

Senate Bill 972 (SB972) Chaptered September 28, 2002, provides for exemptions from prevailing wage requirements for the construction or rehabilitation of privately-owned residential projects. The provisions of SB975 are likely to add approximately twenty percent to the rest of affordable housing projects directly assisted by the City.

Land Use Controls. Land use controls are minimum standards included within City Zoning and Subdivision Ordinances. Zoning is a means of ensuring that the land uses in the community are properly situated in relation to one another and providing adequate space for each type of development. Zoning regulations also control such features as height and bulk of buildings, lot area, yard setbacks, population density, the building use, etc. If zoning standards are significantly more rigid than private sector design standards and do not allow sufficient land use flexibility, then development costs could increase and housing production may decrease.

The City of Merced General Plan Land Use Element also provides a range of residential building types and densities in various areas of Merced. Densities range from 1.7 units per acre for R-1-20, to 36 units per acre for multi-family developments, which is consistent with housing law.

The current Zoning Ordinance for the City of Merced contains a Planned Development (P-D) District overlay zone that allows greater design flexibility and planning than

the strict application of conventional single-family land use and development criteria. The P-D zone enables clustering of units (i.e. developing less land while allowing the same number of housing units that would be permitted under conventional subdivision ordinances), mixing of uses and building types (i.e. multiple housing mixed with commercial and professional uses for example), as well as establishment of special development standards and criteria, which respond to the particular features of a site.

This flexibility allows for development of residential units up to the maximum permitted density in addition to a potential infrastructure cost savings of approximately 25 percent per unit. The clustering approach, coupled with affordable density bonuses, enhances Merced's role as an affordable housing resource, and is beneficial in meeting the housing needs of special groups (seniors, disabled, etc.).

Table 9.5.1 shows development standards by zoning district for Merced. As previously stated, the City's various development standards established by zone provides for flexibility in design and allows dwelling types from small unit, multi-family to larger custom home development. Merced's development standards are comparable to that of most Central Valley communities thereby enabling residential development to achieve the maximum permitted density in each zoning district with minimum effect to the cost and supply of housing.

It should be noted that the City of Merced's multi-family development policies are not a constraint to affordable housing development. The City does not require CUP's for multi-family uses in the R-3 and R-4 zones. If the multi-family use meets development guidelines (density, setback, parking requirements, etc.) of the zone, they are allowed to build with simply a building permit. The City is considering establishing a goal to develop R-3 zoned land at 80 percent of its permitted density throughout the City (see Program 1.1.a). The Planning Department will take the matter up with the Planning Commission and City Council in order to determine feasibility.

The Subdivision Ordinance governs the process of converting raw land into building sites. It controls the internal design of each new subdivision so that the pattern of streets, lots, public utilities, etc. will be safe, pleasant and economical to maintain. Overly restrictive standards will result in greater land development costs and/or lack of development interest.

Applications for the establishment of, or reclassification to, the P-D zone must include a development plan and applications may be initiated by the landowner, City Council or Planning Commission. There are public hearings on the application then the City Council, upon recommendation by the Planning Commission, may approve, disapprove, modify, or attach conditions to a development plan.

Table 9.5.1

*Development Standards by Zoning District
City of Merced*

Zoning District	Minimum Lot Area (Sq. Ft.)	Minimum Area Per Dwelling Unit (Sq. Ft.)	Maximum Building Height (Ft.)	Maximum Lot Coverage	Minimum Lot Width	Minimum Lot Depth	Minimum Driveway Length	Minimum Parking space/unit
PD								
R-1-20	20,000	20,000	35	30%	85	125	20	1
R-1-10	10,000	10,000	35	40%	70	100	20	1
R-1-6	6,000	6,000	35	45%	60-65	100	20	1
R-1-5	5,000	5,000	35	50%	50-55	80	20	1
R-2	6,000	3,000	35	50%	60-65	100	20	1
R-3-1.5	7,500	1,500	35	55%	60-65	-	-	1.75
R-3.2	6,000	2,000	35	55%	60-65	-	-	1.75
R-4	7,500	1,000	40	65%	70	-	-	1.75
RP-D								

The Subdivision Ordinance requires on- and off-site improvements that are similar to the requirements of other cities in Merced County. General subdivision requirements include streets, alleys, sidewalks, curbs, gutters, pavements, sanitary sewer lines, sewer pumping stations, water supply systems, gas systems, fire hydrants, fire alarms, culverts, street name signs, street lights and drainage structures. Conformance to existing plans must occur in the following order: precise/specific plans, master plans, or a street system relative to adjoining and existing street systems. The Subdivision Ordinance details a systematic approach to accepted planning practices for the health and safety of a community and efficient delivery of services and does not create any undue obstacles or constraints in the provision of any housing type.

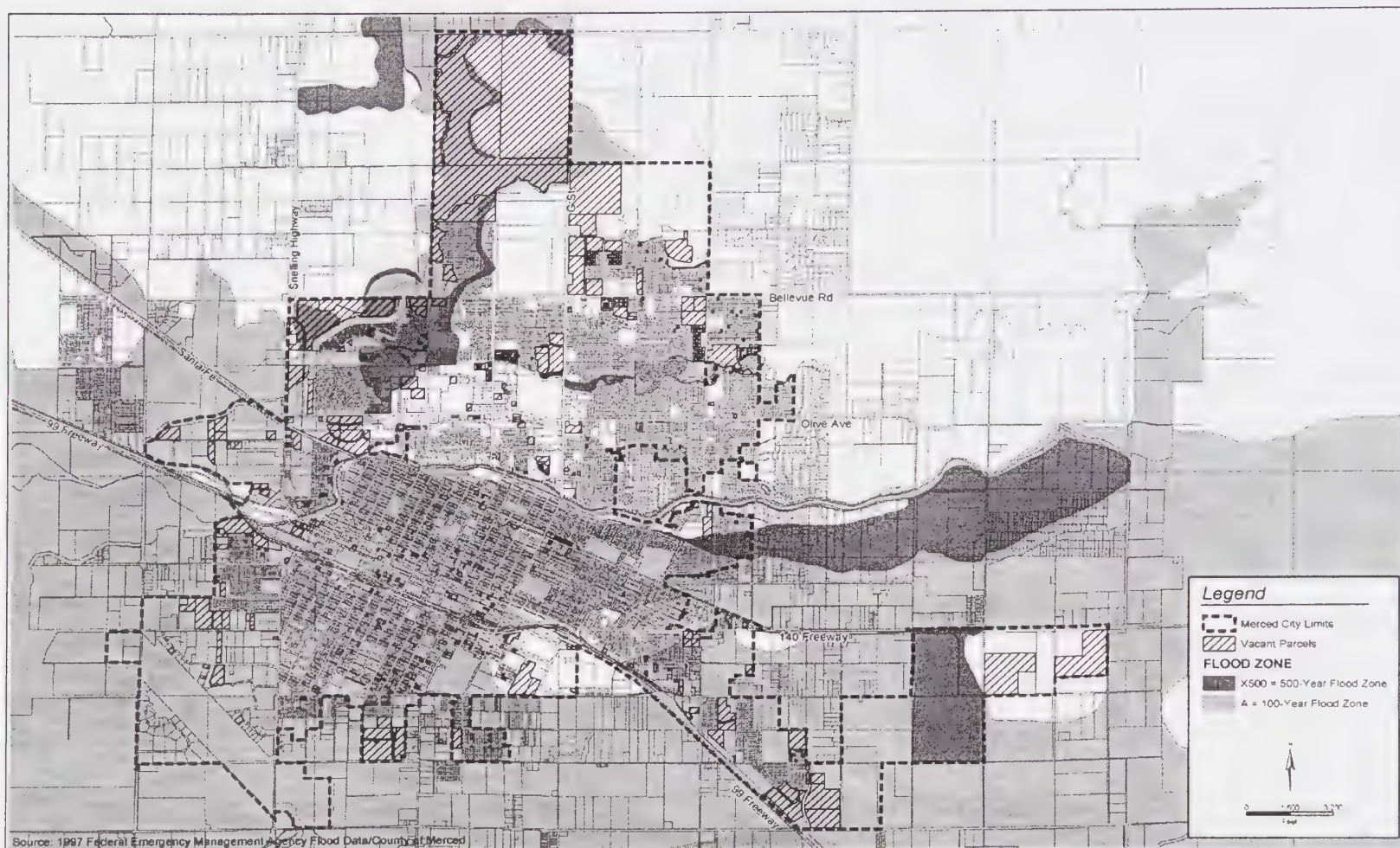
Approximately 25 square miles of land in the City of Merced are subject to 100-year or more frequent floods according to the City of Merced Flood Insurance Rate Maps (FIRM) and are therefore subject to special design regulations for flood proofing. Most

of this land is built on the southern side of the City (reference Figure 9.5.1). Property located in Flood Zone "A" is subject to a 1% or greater chance of flooding (100-year flood) in any given year. There are currently two plans that should reduce the risk of flooding within the City's planning area. These are the *Merced County Streams Group Project Plan* and the *Merced County Critical Area Flooding and Drainage Plan*. These plans involve the construction of dams and modification of 32 miles of levees and channels on various waterways in the area. Approximately 24 square miles in the planning area would be removed from the 100-year or more floodplain by this project. The City of Merced Zoning Ordinance has provisions for flood hazard reduction including anchoring, construction materials and methods, and elevation and flood proofing.

Permit Approval Process. The development review process can affect housing costs. Because of interest rates and inflation, the longer it takes for a development proposal to be approved, the

Figure 9.5.1

Flood Zones



higher the development costs. Development application processing has basic time requirements as a result of the City's obligation to evaluate projects adequately, as well as the requirements of state law. These include consistency with the General Plan and Zoning Ordinance, requirements of the Subdivision Map Act, and compliance with the California Environmental Quality Act (CEQA).

Processing times for development review vary, based on the size of the project and the extent of environmental review required, and can range from 38 days to more than six months if an EIR is required.

Conditional Use Permits required on residential development include: (R-1 zone district) cemeteries, churches, duplexes, public and quasi-public buildings not including corporation yards, repair yards, or similar uses; (R-2 zone district) public and quasi-public uses, cemeteries, photography studios, public utility uses, elderly daycare facilities for 12 or fewer persons; (R-3 zone district) rooming houses, social halls, nursery schools, cemeteries, convalescent homes, public and quasi-public uses, public utility uses; (R-4 only) rooming houses, social halls, nursery schools, convalescent homes, public and quasi-public uses, public utility uses, elderly with facilities for 12 or more persons.

Application for a Conditional Use Permit is made to the Planning Commission in writing, accompanied by a fee. A public hearing is held by the Planning Commission, which is to render its decisions within 60 days after the filing of a completed application. This process is the same for emergency shelter and transitional housing which are considered "public and quasi-public uses. This time frame is not unreasonable and affords the opportunity for

adequate staff research regarding the subject land and the intended usage.

The City of Merced allows the installation of manufactured housing "by right" provided that it meets the state allowed architectural standards. This provision is set forth in the City of Merced Zoning Ordinance.

Typical processing times in Merced are as follows:

Annexations (City Council)	6 to 10 months
Conditional Use Permits, Planning Commission	6-8 weeks
Subdivision Parcel Map (Tentative), (Planning Commission)	3-5 weeks
General Plan Amendments (City Council)	12 weeks
Subdivision Tract Map (Tentative), (Planning Commission)	8 weeks
Planned Development Establishment, (City Council)	12 weeks

Planned Developments are subject to final action by the City Council. A CUP is subject to Planning Commission review and approval. This process is typical of many communities and is not seen as a constraint to new housing in Merced.

The approval process for residential development in multi-family zones is the same as that for single-family. A building permit is submitted, fees are paid, and the plans are reviewed by Building, Engineering, Fire, and the Current Planning Departments. This standard processing time is between three and six weeks.

Homeless. The City continues to work within the Countywide Continuum of Care program for the development of additional shelters and transitional housing. The City is committed to working with the public and private agencies to this end once matching funds for specific projects can be identified. The City's Zoning Ordinance provides for group homes within R3 and R4 with a Conditional Use Permit (CUP). Homeless Shelters (including emergency shelter and transitional housing) are specifically identified and stated as allowed uses with a CUP in all residential and commercial zones (see previous section for a description of the City's CUP process). In 1997, the City approved a conditional use permit for the Merced Rescue Mission, a shelter and religious education facility for homeless men with conditions as described below.

Typical conditions of approval for a conditional use permit for shelters and transitional housing might include standards for landscaping, parking, aesthetics, building and fire code provisions regarding health and safety issues, maintenance of the site, architecture and design, setbacks, pedestrian and vehicular access, public improvements, outdoor storage, and signage. These conditions are typical of most conditional use permits, are no more onerous than those applied to conditional use permits for other uses, and, thus, do not impede the development of homeless shelters and transitional housing. By making sure that these uses fit in well with their surrounding neighborhoods by applying the same standards as those required of other uses, the City believes that the implementation of such conditions encourages and facilitates the development of such uses.

Emergency shelters and transitional housing are encouraged and can be facilitated if so desired by the developer(s) through Programs 1.6.b, provision of funding

application assistance; Program 1.7.a, continued participation in Continuum of Care Plan development; and Program 1.7.b, identifying potential development sites and Proposition 46 funding applications.

Building Codes. Building Codes regulate the physical construction of dwellings and include plumbing, electrical and mechanical improvements. The City currently enforces the Uniform Building Code (1997 Edition) (UBC).

The Inspection Services is responsible for the enforcement of UBD in the City. Building Code enforcement is basically conducted through scheduled inspections of new construction, remodeling, and rehabilitation projects. Inspections are also conducted in response to public complaints or an inspector's observation that construction is occurring without proper permits. Enforcement of these codes ensures a safer housing condition and does not add significantly to the cost of housing in Merced.

Site Improvement. Off-site improvements required by the City are presented in the City's subdivision regulations. These regulations supplement and implement the State of California's Subdivision Map Act. The specific requirements for streets, curbs and gutters, sidewalks, utilities, and other off-site improvements are listed in the City's "Standard Designs of Common Engineering Structures." Other development standards and procedures are presented in the "Subdivision Regulations of the City of Merced" (Title 18 of the Merced Municipal Code).

The City's off-site improvement requirements have been the subject of discussions between City staff and members of the Merced Building Industry Association (BIA). In particular, these discussions have focused on potential changes in the City's

design and construction standards that could reduce the costs of residential construction without compromising public health and safety or community quality. Specific areas that have been discussed and implemented over the last several years include:

Reduce Rights-of-Way for Residential Streets. Rights-of-way have been reduced to provide more land available for residential construction, and reduced infrastructure costs, thereby supporting housing development.

Allow 25 Feet as Standard Curb Return Radius. The radius has been changed from 40 feet to 25 feet on most streets. Exceptions include curb returns at the intersection of one or more collectors or arterials, streets serving schools (to accommodate buses), and streets serving other facilities where large vehicles are used (i.e., industrial areas). Making the standard curb return radius 25 feet instead of 40 serves to reduce the cost of off-site improvements.

Allow Water Boxes Outside of Sidewalk. Sidewalk construction costs are reduced if water boxes are located behind the sidewalk rather than within the sidewalk area.

Fees. There are a number of planning and development fees that are charged for the review and approval of general plan amendments, zone changes, conditional use permits, variances, subdivision maps, site plans, annexations, and service requests. Depending on the extensiveness of the requests, these fees can total several hundred to several thousand dollars per unit (most

likely the latter). As an example, Table 9.5.2 shows the fees charged to a single-family home of 1,500 square feet (3 bedroom, 2 bath, with attached garage), and a 100-unit multi-family complex. Those fees are necessary to fully fund infrastructure for residential development.

In 1998, the City of Merced implemented an impact fee program to pay for needed public facilities and infrastructure. All new construction is subject to these impact fees. The fee is \$2,524 per single-family unit and \$1,829 per multi-family unit. The fees have recently been reviewed for adequacy and a determination made that increases are appropriate to fully fund needed infrastructure. These fees could be considered a burden on low-income homebuyers. The City's Density Bonus Ordinance would allow a fee waiver and/or deferral of fees if approved by City Council.

The Planning and Development Fee Schedule for the City of Merced appears in full in Table 9.5.3. While these fees represent a considerable cost for new housing development, they do not represent an excessive burden or constraint to new development. A comparison of City of Merced fees to fees charged in other municipalities has shown Merced's fees to be comparable to other Valley cities (Merced Planning Department, 1995). In general, cities to the north of Merced tend to have higher fee structures while cities to the south of Merced have lower fee structures, variations that are likely relative to salary costs associated with the delivery of services.

Table 9.5.2

*Current and Proposed City Development Fees
City of Merced*

City Fee	Single-Family Dwelling (1,500 sq. ft.)	Multi-Family Complex (100 units)
Sewer Fees	\$2,015.00	\$206,500.00
Water Fees	\$3,954.00	\$65,967.00
Bldg Permit/Plan Check	\$3,034.00	Varies ⁴
CRIS Tax	\$1,365.00	Based on Size of Units ³
Park Fee (Zone 5)	\$907.00	\$90,700.00
Refuse Fee	\$118.00	\$11,800.00
Adopted Public Facilities Impact Fee (1998)	\$2,525.00 ¹	\$182,900 ²
TOTAL	\$13,918.00	\$557,867.00
Proposed Impact Fee (2003)	\$6,045.00 ¹	\$429,800.00 ²
Proposed TOTAL	\$17,438.00	\$804,767.00
Cost per Dwelling Unit	\$17,438.00	\$8,048

Source: City of Merced Building Division, March, 2003

- 1) Based on \$2,525 per single family dwelling unit for adopted fee and \$6,045 for the proposed fee (expected to be effective in January 2004).
- 2) Based on \$1,829 per unit for a Multi-Family Residential Use for adopted fee and \$4,298 per unit for the proposed fee.
- 3) CRIS Tax is the Cost Revenue Impact System Business License Tax on Residential Construction only and is charged at \$0.93 per square foot of living area.
- 4) Varies based on type of construction, size of each unit and number of bathrooms for each unit.
- 5) School Fees are in addition to City fees and are \$2.14 per square foot of buildings for Residential uses within the Merced City School District (covers most of Merced City limits). School fees are \$3.49 per square foot for Residential uses within the Weaver Union School District (covers Southeast Merced and a portion of South Merced, south of Childs Avenue).

One strategy adopted by the City to help alleviate the burden of fee payments is to defer payment of public facility fees until the time of occupancy. By deferring payment, borrowing costs are reduced.

LAFCo Requirements. The Merced County Local Agency Formation Commission (LAFCo) regulates, through approval or denial, the boundary changes proposed by other public agencies or individuals. This includes Sphere of Influence (SOI) amendments and annexations.

Pursuant to §56430 of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), the Governor's Office of Planning and Research (OPR) has

prepared guidelines for Local Agency Formation Commissions (LAFCo) to conduct reviews of California's municipal services. Prior to the 2000 amendments and its renaming as the CKH Act, the Cortese-Knox Local Government Reorganization Act of 1985 (CKA), as amended, already permitted LAFCos to conduct service review studies. Merced County is in the process of drafting their own Service Review Guidelines.

Annexations may be a constraint dependent on project circumstances. When an area to be annexed is within the current Sphere of Influence (SOI) a Municipal Service Review (MSR) is conducted by LAFCo to assure the public agency is able to adequately provide services to the new area.

Table 9.5.3

**Planning and Development Fee Schedule
City of Merced**

Application Type	Application Fee
ANNEXATION & PRE-ZONING ***	
Single R-1 Lot (1 acre or less)	\$500
All Other Annexations (Not including LAFCo fee of \$2,231)	\$1,700 +\$120/acre
APPEALS	
Conditional Use Permits (CUP)	*****Based on Cost (\$150 Deposit Required)
Tentative Subdivision Map	*****Based on Cost (\$150 Deposit Required)
Minor Subdivisions	
Lot Splits/Parcel Maps	\$125
Site Plan Review Committee	\$150
Miscellaneous Appeals	\$150
CONDITIONAL USE PERMITS (CUP)	
Minor: (Signs, walls, etc.)	\$100 (signs) or \$150
Regular CUP (R-1 type uses, churches, Land use or design only; interface overlay, etc.)	\$1,800
Major CUP (Land use and design; P-D's)	\$2,000 +\$75/acre
DESIGN REVIEW COMMISSION	
Painting and Small Signs	\$10
Signs, Awnings, and Simple Modifications	\$50
Remodels and Site Improvements	\$100
New Developments	\$250
Appeal to City Council	\$50
DETERMINATIONS/INTERPRETATIONS	
By Planning Commission	
Single R-1 Lot	\$140
Other	\$275
By Staff	\$25
ENVIRONMENTAL REVIEW	
Environmental Review Checklists	No Charge [Except a \$25 check made out to "Merced County" is required as a filing fee]
Environmental Impact Reports	*****Based on Cost (Deposit Required)
Expanded Initial Study	*****Based on Cost (Deposit Required)

Application Type	Application Fee
EXTENSIONS	
Conditional Use Permits	\$165
Tentative Subdivision Maps	\$165
Minor Subdivisions	\$55
Variances	\$85
FINAL SUBDIVISION MAPS	
Final Subdivision Map	\$1,500
Engineering Plan Check	1/2% of the public improvement value
GENERAL PLAN AMENDMENTS	\$500 +\$65/acre
MINOR SUBDIVISIONS	
Lot Splits/Parcel Maps	\$450 +\$225/lot over 2 lots
Lot Line Adjustment	\$125 +\$55/lot over 2 lots
Lot Mergers	\$100 +\$75/lot over 2 lots
Subdivision Map Exemption Investigation	\$125 +\$28/lot over 2 lots
Reversion to Acreage	\$74 +\$75/lot over 2 lots
MISCELLANEOUS	
Application for Administrative Revision to Site Plans or Elevations	\$100
Certificate of Compliance	\$110
Continuance Requests - Planning Commission Public Hearings	\$110
Home Occupation Permits	\$25
Temporary Trailer Permits	
Residential***	\$40
Commercial/Industrial & Other	\$40
PRE-APPLICATION REVIEW*	
[This charge will be credited against any "Application Fee" subsequently received from the applicant for the subject project.]	
Minor (CUP's, Site Plan Approval, etc.)	\$100
Major (Zone Changes, General Plan Amendments, Annexations, SUP Revisions, Tentative Maps, etc.)	\$125
SERVICE REQUESTS (COUNTRY PROPERTY)	
Sewer Request (Single R-1 Lot of 1 acre or less)	\$125
Water Request (Single R-1 Lot of 1 acre or less)	\$125
Sewer & Water Request (Single R-1 Lot of 1 acre or less)	\$125
All Other Sewer/Water Requests	\$150 +\$10/acre or portion thereof

Application Type	Application Fee
SITE PLAN REVIEW (for principally-permitted industrial uses)	
Minor (minor change in existing site or change in use with minor design adjustments)	\$505
Major (major redesign of existing site or design of vacant site)	\$990
SITE UTILIZATION PLAN REVISIONS****	\$1,000
TENTATIVE SUBDIVISION MAPS	*****Based on Cost (\$1,500 Deposit Required)
VARIANCE	
Single R-1 lot	\$750
All Others	\$900
Multiple on one application	\$1,350
ZONE CHANGES (Including to planned developments)	\$2,250 +\$65/acre
ZONING TEXT AMENDMENTS (Amendments to Title 20 of Merced Municipal Code)	
Re: Standards (Setbacks, signs, etc.)	\$450
Re: Land Use (Adding a land use to a zone, adjusting requirements for a specific land use, etc.)	\$550

*Pre-Application Review Charge may be assessed on any request to consider a particular piece of property for development activity, including change of zoning, preliminary site plan review, preliminary review of a subdivision layout, or as otherwise determined by the City Planner. This charge will be credited against any "Application Fee" subsequently received from the applicant for the subject project.

**R-1 Type Uses. Those uses eligible for consideration as conditional uses in an R-1 residential zone or any R-1 use (principally permitted or otherwise) when considered for a conditional use permit in another zone.

***Annexations. Fees paid at time of application are for processing by the City. If approved by the City Council, additional fees (payable to LAFCO) will be required with the new application due to the Local Agency Formation Commission (LAFCO) at that time. The final step in a completed annexation is submission to the California State Board of Equalization, which will require an additional fee (payable to the State). The base fee, a minimum of several hundred dollars, is tied to acreage and increases as the size of the annexation increases. (If an applicant wants more information on these prospective fees, please call the Merced County Planning Department at 385-7654.)

****Site Utilization Plan Revisions. A Conditional Use Permit is also required before construction.

*****Based on Cost (Deposit Required). Application fee is based on the actual cost of time, services, and materials incurred in processing the application. With the exception of environmental reviews, the deposit is due upon application. Any costs above the deposit are due and payable prior to final Planning Commission/City Council action. The deposit and actual cost for environmental reviews will be determined on a case by case basis after the application is accepted, and the deposit is due before work commences.

When an annexation is sought outside of the public agency's SOI, or an SOI amendment is requested, additional analysis is included regarding management efficiencies, opportunities for rate reductions, and

cooperative efforts for the provision of services. Such occurrences are not typically planned within current work schedules and budgets of the LAFCo and may involve additional time to accomplish.

Effective January 2001, every city's SOI is to be updated not less than every five years. Therefore, all SOIs, at a minimum, need to be updated by January 1, 2006. The tool for conducting service reviews is provided in §56430.

Additionally, §56430 of the Act of 2000 directs the Commission, in conjunction with or before considering establishment or update of a sphere of influence, to "conduct a service review of the municipal services provided..." and prepare a written statement of its determinations with respect to nine areas: (1) infrastructure needs or deficiencies; (2) growth and population projections for the affected area; (3) financing constraints and opportunities; (4) cost avoidance opportunities; (5) opportunities for rate restructuring; (6) opportunities for shared facilities; (7) government structure options, including advantages and disadvantages for consolidation or reorganization of service providers; (8) evaluation of management efficiencies; and (9) local accountability and governance.

Local implementation of these state service reviews and guidelines is provided by LAFCo's Policy and Procedures manual which cite agricultural policies, Sphere of Influence policies, and annexation policies. These policies, contained in Appendix A, provide for a Sphere of Influence to accommodate 20 years of growth, and annexed, zoned areas sufficient to accommodate 10 years of projected growth. Annexations are also encouraged to meet RHNA.

9.5.2 Non-Governmental Constraints

Non-governmental constraints are those which are generated by the private sector and which are beyond the control of local governments. Some of the impacts of non-

governmental constraints can be offset to a minimal extent by local governmental actions, but usually the effects are very localized and have little influence on the total housing need within the jurisdiction or market area. Non-governmental constraints to affordable housing in Merced consist of three major factors: price of land, availability of financing, and cost of construction.

The City has a limited ability to influence these factors. Land costs are impacted by the number of adequate sites that are available. Regional demand and costs have a great impact on land costs. Construction and financing costs are also determined at the regional, state, and national levels by a variety of private and public actions, which are not controlled by the City.

The major barrier to providing housing for all economic segments of the community concerns the nature of the housing market itself. Development costs have risen to the point where building affordable housing for all economic segments of the community is difficult to provide in Merced.

Financing Costs and Availability.

Financing costs are subject to fluctuations of national economic policies and conditions. The cost of money for site preparation and construction is a very important determinant of the initial cost to the purchaser. Mortgage rates have an even more dramatic effect on the cost of housing to the homebuyer and on the cost of constructing rental units. Interest rates are ultimately passed on to the renter by the apartment owner. Interest rates were low enough between 1994 and 2002 to allow an increase in building activity, however, a significant portion of the population was still precluded from participation in the market. There is always a concern that interest rates will

increase again during future years and such increases may result in a slowing of construction activity.

Generally, a fourteen percent (14%) interest rate is the level at which most buyers are expected to drop out of the market. Fluctuating interest rates can have a particularly dramatic effect on the building industry when mortgage rates increase between the start of construction and completion of a project. It is anticipated that since interest rates are currently around six percent, home buying will continue to increase provided other recessionary factors are overcome.

Obtaining permanent financing for qualified homebuyers does not pose irreconcilable constraints with the availability of various home loan programs requiring zero to five percent down payments. Interest rates on these financing vehicles average around six percent.

Assistance is available through the City's Downpayment Assistance program to eligible and qualified buyers.

Tax increment has been utilized by the Redevelopment Agency to write down costs of outstanding assessments for public improvements. This program encourages homeownership by very-low, low and moderate-income households. Disposition and development agreements require housing for low-income households in exchange for agency financial participation.

Information Availability. Another constraint to many Merced residents seeking the procurement of housing is a lack of information and experience. First-time buyers lack the knowledge and history to procure a home purchase loan. This lack of information can be largely attributed to

language barriers and a lack of marketing outreach targeted at low to moderate income citizens.

Price of Land. According to the California Building Industry Association, the cost of land represents an ever-increasing proportion of the total housing development cost. Since the mid-1960's, raw land has cost significantly more in California than in the rest of the United States. Land costs in Merced are significantly less than the rest of California. Vacant residential lots in the City limits with improvements are selling for \$70,000 or more in North Merced and \$45,000 in South Merced.

Measures to reduce land costs, which are traditionally available to local governments, include the use of Community Development Block Grant (CDBG), Home Partnership (HOME) and Redevelopment Agency 20 percent set-aside funds, and the use of government-owned surplus lands for housing projects. These measures generally benefit the construction of assisted, low-income housing. Merced, historically has relied upon federal, state and local program funds to promote affordable housing in the City.

Cost of Construction. Rising costs of labor and materials have contributed to non-governmental constraints on housing development and improvement. These costs were a substantial part of the increased housing costs during the 1990s. Builders passed those increases along to the homebuyer or renter.

The cost of residential construction in Merced is still relatively low. In 2003, a modest tract home approximately 1,650 square feet could be built for approximately \$100-\$110 per square foot.

Since the passage of Proposition 13, local governments have faced the increasingly difficult task of trying to finance the cost of infrastructure. Infrastructure costs can no longer practically be passed on to the taxpayer through property tax backed general or special obligation bonds by the local jurisdiction. The incremental cost of facility construction has been partially financed through impact fees which are typically passed along in increased cost of housing and rents.

Other methods that can be used by jurisdictions to promote the construction of affordable housing include allowing smaller lots, reducing processing fees, and reducing processing time. Lot size and improvement concessions need to consider possible site-specific characteristics such as soil quality and drainage capacity before they are granted. Reducing fees can have a significant effect on housing costs in jurisdictions where the fees represent a large percentage of the overall cost. This option might be considered for developers who would assure that housing developed with such concessions would be kept affordable to lower income households for long periods of time.

Lifestyle. The increase in housing costs during the 1990's was partially due to consumer preference and lifestyle expectations. The size of the typical single-family house increased and the amenities included in the housing package changed, as well as the number of bedrooms and size of living areas. All of these lifestyle choices have costs associated with them. The trends in California emerging now, due to governmental and non-governmental constraints and the resulting increase in housing costs, are towards smaller units, smaller lots, and alternatives to the single family detached dwelling units especially in more

heavily populated and urbanized areas. However, in Merced, larger, upscale, single-family units are still the preference.

9.5.3 Special Constraints

At Risk Housing Units. State law requires that each city provide an analysis and programs for preserving existing affordable multi-family rental housing units which were developed with public subsidies. The analysis must address units which may potentially be converted to market-rate housing within a ten year period from July 2000 to July 2010. There are five projects in Merced containing a total of 340 affordable housing units which were developed with federal interest rate and rental subsidies (reference Table 9.5.4). In exchange for the subsidies, the project developers agreed to retain rental rates affordable to lower income households for a specified number of years.

The potential loss of existing affordable housing units is an important issue to the City due to displacement of lower-income tenants and the limited alternative housing for such persons. It is typically less expensive to preserve the affordability of these units than to subsidize construction of new affordable units due to the inflation of land and construction costs which has occurred since the original development of these projects.

Assisted multi-family rental developments which could potentially lose affordable units by the year 2010 are Merced Commons I and II, Merced Gardens, Merced Meadows, and Merced West Manor, which contain a total of 340 affordable units. The Merced Commons I and II Apartments, containing 147 affordable units, is under contract through the year 2020 and 2011 respectively.

Table 9.5.4

Federally Assisted Multi-Family Housing, March 2003

Project Name	Address	Assisted Units	Sec. 8	Risk Assessment*
Merced Commons I	290 Q. St.	76	1/31/2020	Post-2010 Expiration
Merced Commons II	290 Q. St.	71	9/16/2011	Post-2010 Expiration
Merced Gardens	3299 Meadows	47	12/31/2005	At Risk
Merced Meadows	3125 Meadows	100	1/1/2013	Low Risk (Nonprofit)
Merced West Manor (a.k.a. Merced Golden Manor)	342 U St.	50	9/30/2004	At Risk

State Law Requirements

In accordance with State Legislation, this Housing Element includes analysis and programs for preserving assisted multi-family rental housing developments. The State Legislation was passed in 1989 in response to the potential loss of numerous affordable rental units which have received assistance from federal, state, and/or local programs.

The State Legislation was adopted as Section 1451, Statutes of 1989, which amended Section 65583 of the State of California Government Code. The state law requires that each city and county provide an analysis and program for preserving assisted rental housing developments during a ten-year period. Further, the preservation analysis and programs must be updated every five years, at the same time the other sections of each locality's housing element are updated. For the City of Merced, the current preservation analysis period is July 1, 2000 to July 1, 2010.

Pursuant to state law, the following components are included in this analysis:

- Inventory of units at risk of losing use restrictions;
- Cost analysis of preserving at-risk units versus replacing them;

- Nonprofit entities capable of acquiring and managing at-risk projects;
- Potential preservation financing sources; and
- Efforts to preserve units at risk of losing use restrictions.

Five multi-family rental projects in Merced, totaling 340 units, were constructed using federal subsidies. In exchange for the subsidies, the developers were required to provide the rental units to low-income residents for a specified period of time. Of these, 93 units could potentially convert to moderate and market-rate housing by the year 2010. The conversion of any low-income apartments would be a significant reduction on the amount of affordable housing available in Merced. Section 8 existing housing is the only means the City has to subsidize families in rental apartments, and its continuation is critical for maintaining subsidized rentals for families.

Inventory of Units At Risk of Losing Subsidies

The following summarizes each existing assisted multi-family rental housing development in the City of Merced. In addition, the narrative includes data for each project regarding ownership and other characteristics. The City conducted a comprehensive inventory of all multi-family

rental units that were assisted under the following programs:

1. HUD Programs:

- Section 8 Lower-Income Rental Assistance
- New Construction
- Substantial or Moderate Rehabilitation
- Loan Management Set-Aside
- Section 213 Cooperative Housing Insurance
- Section 221(d)(3) Below-Market-Interest-Rate Mortgage Insurance Program
- Section 236 Interest Reduction Payment Program
- Section 202 Direct Loans for Elderly or Handicapped
- Community Development Block Grant Program

2. FmHA Section 515 Rural Rental Housing Loans

3. State and Local Multi-Family Revenue Bond Programs

4. Redevelopment Program

5. Developments which obtained a density bonus and direct government assistance pursuant to Government Code Section 65916.

The sources used to document the project information and contract/termination dates include the California Housing Partnership Corporation's "Inventory of Federally-Subsidized Low-Income Rental Units at Risk of Conversion," City of Merced Redevelopment Agency loan documents, and discussions with City of Merced, Merced Housing Authority, and HUD Regional Office staff.

Multi-Family Developments

The following are descriptions of the five subsidized projects that may be at-risk of conversion to market rates during the 2000 to 2010 period.

- **Merced West Manor (a.k.a. Merced Golden Manor).** This development includes 50 units. The development is occupied by seniors and is reportedly in good condition. All 50 units in the development are affordable to low-income individuals. Merced West Manor is a recipient of HUD 221(d)(3) financing and Section 8. The earliest date of subsidy termination was 1991. Based on conversations with the HUD regional office, Merced West Association, the project owner, filed a prepay notice on 4/2/96. The new Section 8 expiration date is 9/30/2004 and is renewed on a yearly basis. The owner has no current plans to terminate the Section 8 contract.
- **Merced Gardens.** Merced Gardens includes 47 family units, all of them affordable to low income. The project is in reportedly good condition. Merced Gardens received HUD Section 221(d)(3) financing. The loan was fully repaid in 1995. However, the new Section 8 expiration date is 12/31/2005 and is renewed on a yearly basis. The owner, who has been the owner since the complex was built, has no plans of terminating the Section 8 contract.
- **Merced Commons I.** This development includes 76 units. The development is occupied by low income families and is reportedly in good condition. All 76 units are affordable to low-income families. Merced Commons I is a recipient of one of CHFA's multifamily

loan programs. The earliest date of subsidy termination is 2020.

- **Merced Commons II.** This development includes 71 units and is occupied by low-income families. It is in good condition. Merced Commons II is a recipient of a multifamily loan program by CHFA. The earliest date of subsidy termination is 2011.
- **Merced Meadows.** This 100-unit project is occupied by low-income families and is reportedly in good condition. All the units are affordable to low-income families. The project receives Section 8 subsidies which expire in 2013. The “risk assessment” for this project is low because it is owned by a nonprofit corporation. Nonprofit owners have a public purpose to develop and own affordable housing. They have little incentive to remove current restrictions by terminating their Section 8 contracts or prepaying their mortgages.

Based on these findings, Merced West Manor and Merced Gardens are considered at risk during the planning period. The City will initiate closer monitoring and provide all reasonable means, including applications for subsidized funding, to ensure the continuation of affordability.

Costs Analysis

Based on federal and state guidelines, an order of magnitude cost analysis was conducted to compare the cost to replace each development with the cost to preserve affordability of the project.

The order of magnitude cost analysis indicates that the cost to preserve the units at Merced Commons I and II, Merced Gardens, Merced Meadows, and Merced West Manor is less than the cost to replace the units. The cost of construction and land to replace the

340 units is approximately \$25 million. Assuming an “equity” investment of 20 percent, replacement costs would total \$5.1 million up front, while ongoing costs would total nearly \$3.5 million annually (debt service and operating costs).

The viability of all these projects as affordable housing is enhanced by resident-based Section 8 certificates and vouchers. Most of the 340 households currently residing in these complexes are provided with project-based Section 8 assistance. Section 8 rents in Merced are currently similar to market rents. Revenues provided by the Section 8 rents can compensate for the lower rents generated by the units that are not leased by households who receive Section 8 assistance.

Preservation of Financing Sources

This section provides a brief summary of the existing public financing sources available for the preservation of affordable housing units at risk of conversion to market rate. This list of financing sources represents a sample of the type of programs that may be available during the time of potential conversion.

Community Development Block Grant (CDBG) program. The U.S. Department of Housing and Urban Development (HUD) provides an annual entitlement to the City of Merced. These funds can be utilized for the replacement of substandard housing, rehabilitation of lower income owner-occupied and rental-occupied housing units, and other programs that assist households with incomes at or below 80 percent of median income.

Redevelopment Tax Increment Housing Set-Aside Funds. These funds can be utilized to provide acquisition, construction and rehabilitation of housing developments that are available to low and very low-

income households. Twenty percent (20%) of the incremental tax revenues derived from redevelopment project areas must be used for the provision of affordable housing within the community to residents whose incomes do not exceed 120 percent of median income.

Low-Income Housing Tax Credits.

Credits can be used to fund the hard and soft costs (excluding land costs) of the acquisition, rehab or new construction of rental housing. Projects not receiving other federal subsidy receive a federal credit of 9 percent per year for 10 years and a state credit of 30 percent over 4 years (high cost areas and qualified census tracts get increased federal credits). Projects with a federal subsidy receive a 4 percent federal credit each year for 10 years and a 13 percent state credit over 4 years.

HOME Program. HOME funds may be used for rehabilitation, acquisition and/or new construction of affordable housing. At least 90 percent of the households assisted must be at or below 60 percent of median income.

Low-Income Housing Preservation and Residential Home Ownership Act

Christian Church Homes of Northern CA
303 Hegenberger Road, Suite 201
Oakland, CA 94621-1419
(510) 632-6714
William F. Pickel

Eskaton Properties Inc.
5105 Manzanita Ave.
Carmichael, CA 95608
(916) 334-0810
Raymond Gee

Self-Help Enterprises
P.O. Box 351
Visalia, CA 93279
(559) 651-1000
Peter Carey

(LIHPRHA). LIHPRHA requires that all eligible HUD Section 236 and Section 221(d) projects "at-risk" of conversion to market-rate rental housing through the mortgage prepayment option be subject to LIHPRHA Incentives. The incentives to owners include HUD subsidies which guarantee owners an eight percent annual return on equity. Owners must file a Plan of Action to obtain incentives or offer the project for sale to a) non-profit organizations, b) tenants, or c) public bodies for a 12 month period followed by an additional three-month sale to other purchasers. Only then are owners eligible to prepay the subsidized mortgages.

Entities Interested in Participating in California's First Right of Refusal Program.

The California Department of Housing and Community Development has listed five entities with possible interests in participating in California's First Right of Refusal Program in Merced County.

ACLC, Inc.
42 N. Sutter Street, Suite 206
Stockton, CA 95202
(209) 466-6811
Carol J. Ornelas

Senior Housing Foundation
1788 Indian Wells Way
Clayton, CA 94517
(925) 673-0489
Tim L. Truesdale

Housing Accessibility for the Disabled.

As of January 1, 2002, in addition to the needs analysis for persons with disabilities, housing elements must analyze potential governmental constraints to the development, improvement, and maintenance of housing for persons with disabilities. In Merced, no additional fees, permits, or processing times are required for the development of housing for the disabled. The State of California has removed any

City discretion for review of small group homes (six or fewer residents), and the City does not impose any additional zoning, building code, or permitting procedures other than those allowed by state law. Additionally, large group homes (over 6 residents) for the mentally disabled are allowed as a conditional use in all of the residential zones in Merced. There are no residential zones in Merced that inhibit the development and/or improvement of housing for persons with disabilities.

The City allows residential retrofitting to increase the suitability of homes for persons with disabilities in compliance with ADA requirements and Chapter 11 of the 1998 California Code. Accessible housing for the disabled can be achieved in a number of ways (wheelchair ramps, grab bars, wider halls, elevated electrical outlets, lowered switches, etc.). Some modifications that can be done can be as simple as adding a tub seat in the bathroom and marking light switches with Braille tape. Other modifications such as wheelchair ramps, removing steps, and widening hallways are more labor intensive and would require a building permit. The permit process would be the same for accessible housing modifications as they would be for modifications to single-family and multi-family units.

In accordance with recently enacted legislation (Chapter 671, Statutes of 2001), the City must demonstrate efforts to remove governmental constraints on housing for persons with disabilities, such as accommodating procedures for the approval of group homes, ADA retrofit efforts, and evaluation of the zoning code for ADA compliance or other measures that provide flexibility in the development of housing for persons with disabilities. New programs included in this update address this issue pursuant to local compliance to state law. The City complies with the provisions of SB520 by following California's handicap

and accessibility laws which require the following for multi-family residential developments:

- Multi-family developments containing 4-20 units only require that all of their ground floor units are adaptable (interior modifications) and meet accessibility requirements.
- Multi-family developments containing greater than 20 units require that 2 percent of the total units are adaptable and the remainder of the units are accessible.

Single-family residential developments are exempt from accessibility requirements, but accessibility features for a single-family home may be added at the request of a homeowner.

Procedures for Ensuring Reasonable Accommodations

The City of Merced has procedures in place which will ensure that reasonable accommodations are made for persons with disabilities. To date, these cases have been handled on a case-by-case basis by the Director of Development Services and/or the Chief Building Official. No special fees are associated with such requests and they are administratively approved within the scope of the Director's discretion under the zoning ordinance or building code. (The zoning code also gives the Director discretion to waive any fees "where good cause appears.")

Individuals with disabilities can telephone, send an e-mail, write a letter, stop by City offices, or appear at a Planning Commission or City Council meeting to request special accommodation from City requirements due to a disability. Such requests will be heard by the Director of Development Services and/or the Chief Building Official within 2 weeks and be administratively approved. If the accommodation is outside the Director's

discretion under the Zoning or Building Code, staff will provide expedited review in order to get to the application before the Planning Commission, City Council, or Board of Zoning Adjustment (for a variance) within 30 to 45 days. The City believes that its permit processes are relatively simple and expeditious and do not constitute a constraint to reasonable accommodations for persons with disabilities.

Examples of ways in which the City facilitates housing for persons with disabilities through its regulatory and permitting procedures include:

- ◆ The City's zoning code (MMC 20.62.040D) allows uncovered porches, ramps, platforms, or landing places which do not extend above the first floor of the building to extend into any required yard not more than 6 feet, provided that an open railing not more than 30 inches in height is installed. This provision has been used to approve requests for handicapped ramps for residential, commercial, institutional, or industrial structures.
- ◆ In addition, funds are available through the City's Housing Program for retrofitting structures to accommodate physically disabled residents (including improvements such as ramps, handicapped bathrooms, etc.). Since 1994, the City's Housing Program has provided such assistance to over 35 projects.
- ◆ The City allows some variation from parking standards through Section 20.58.330 (Uses Not Specified) which has been used to reduce parking requirements for senior housing projects.
- ◆ The City permits group homes of all sizes in all its residential and commercial zones (see previous page).
- ◆ The City permits housing for special needs groups, including for individuals

with disabilities, without regard to distances between such uses or number of uses in any part of the City.

In light of current and proposed planning policies and regulations, the City believes that it has mitigated any potential constraints to the availability of housing for persons with disabilities.

9.6 GOALS, POLICIES AND OBJECTIVES (2003)

This section describes housing goals, policies, and programs for the City of Merced. A goal is defined as a general statement of the highest aspirations of the community. A policy is a course of action chosen from among many possible alternatives. It guides decision-making and provides a framework around which the housing programs operate. A program is a specific action, which implements the policy and moves the community toward the achievement of its goals. Programs are a part of the City's five-year action plan and constitute the City's local housing strategy.

State Housing Goals

According to the California Statewide Housing Plan Update, it is the goal of the state to "ensure to all Californians the opportunity to obtain safe, adequate housing in a suitable living environment." Additionally, the State Department of Housing and Community Development has established the following four primary goals:

- Provision of new housing;
- Preservation of existing housing and neighborhoods;
- Reduction of housing costs; and,
- Improvement of housing conditions for special needs groups.

Housing Element Update

The City of Merced General Plan Housing Element is consistent with, and addresses, the above-stated state goals. The goals of the 2003 City of Merced Housing Element serve at the local level to enhance and build upon State of California goals for providing safe, decent, and affordable housing available for all City residents.

- Goal H-1: New Affordable Housing Construction
- Goal H-2: Housing Conservation and Rehabilitation
- Goal H-3: Housing Affordability
- Goal H-4: City Coordination
- Goal H-5: Quantified Objectives

Policies and programs from the 1992 Housing Element have been either incorporated herein or updated, otherwise modified, or deleted as deemed appropriate.

Implementation of programs shall be on a continuous basis unless otherwise noted in the program description. Monitoring will be made annually through the General Plan status report required by Government Code 65400.

The Goals, as stated in the 1992 Merced Housing Element, are as appropriate today as when they were originally developed. These goals encompass new construction, conservation of existing stock, affordability, coordination with other agencies, and establishing quantified objectives.

The City's Action Plan described herein is not inclusive of the student, faculty and staff housing as planned by the University of California Merced within its 2,100 acres. UC Merced housing needs and implementation plans are well defined in Long Range Development Plan (LRDP).

The Final EIR of the LRDP indicated that at full development the University community plans included housing for 50 percent of the student population. The Draft EIR acknowledges that 50 percent on-campus student housing is uncertain during early years of campus development. However, it concluded that off-campus demand during the early years would create a less-than-significant impact. (Reference: URS Response to Comments, Final EIR, January 2002).

Action Plan of the 2003 Housing Element

Within the City of Merced, the primary provision of financial and technical assistance to ensuring and subsidizing affordable housing initiatives is primarily accomplished through the City's designated Housing Program. The Housing Program administers Community Development Block Grant (CDBG), Home Investment Partnership Program (HOME), and Redevelopment Agency (RDA) Housing Set-Aside Funds in order to increase the supply of safe, decent, and affordable housing. The Program is also involved in community development and neighborhood revitalization.

The City of Merced's 2003 Housing Element Programs in support of its stated Goals and Policies will be implemented based on the following Housing Action Plan.

Goal H-1: New Affordable Housing Construction

GOALS

- **Increase the Stock of Affordable Housing for Very Low, Low, and Moderate Income Households**
- **Encourage a Mix of Housing Throughout the City to Meet the Needs of Different Income Groups**
- **Encourage the Construction of Housing and Facilities to Meet Special Needs, Including Farmworkers, Homeless, Large Families, Seniors, and People with Physical or Mental Disabilities**

POLICIES

- H-1.1** Support Increased Densities In Residential Areas.
- H-1.2** Support Development of Affordable Housing.
- H-1.3** Pursue Joint Development Agreements.
- H-1.4** Provide Priority Review and Permitting for Affordable Housing Projects.
- H-1.5** Support the Construction of Second Units.
- H-1.6** Pursue State and Federal Funds for New Housing Construction.
- H-1.7** Support Housing to Meet Special Needs.
- H-1.8** Ensure Land Availability.

Policy H-1.1**Support Increased Densities In Residential Areas****1.1.a Evaluate for Multi-Family Housing Development**

The City will complete evaluation of vacant and underutilized parcels throughout the City to determine suitability and feasibility for potential multi-family development, considering at least, but not limited to, location, size, circulation, and available infrastructure. Staff will also present proposed amendments to the R-3 zone to require development at a minimum density of a least 80 percent of permitted density and will monitor and evaluate whether the R-3 sites are providing realistic development opportunities for low income households through the general plan annual review process (Government Code 65400).

<i>Action:</i>	<i>Complete the study to identify potential multi-family development sites.</i>
<i>Responsibility:</i>	<i>Planning Department, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>2004</i>
<i>Funding Source:</i>	<i>General Fund</i>
<i>Quantifier:</i>	<i>Completion of study and proposed amendments</i>
<i>Monitoring:</i>	<i>Proposed amendments scheduled for public hearing and reports delivered to Planning Commission/City Council</i>

1.1.b Promote the Usage of the Residential Planned Development Zoning Designation

Expedite processing of Residential Planned Development (RPD) permits to encourage innovative site planning, multi-level developments, clustered housing design and planned open space.

<i>Action:</i>	<i>Continue fast-track permitting</i>
<i>Responsibility:</i>	<i>Planning Department, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>Ongoing</i>
<i>Funding Source:</i>	<i>General Fund</i>
<i>Quantifier:</i>	<i>Permitted RPD's</i>

1.1.c Encourage Mixed Use Development

Expand the usage of mixed-use residential/office/retail developments in the City's core downtown and other appropriate commercial centers to support both affordable housing and economic development goals, through priority permit processing. The City will also amend the Zoning Ordinance to allow residential as a principally permitted use in deference to the Redevelopment Agency's Preferred Land Use Map and when mixed with commercial uses.

<i>Action:</i>	<i>Amend Zoning Ordinance</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>December 2004</i>
<i>Funding Source:</i>	<i>N/A</i>
<i>Quantifier:</i>	<i>4 units completed annually</i>

1.1.d Review and Update the City's Zoning Ordinance to Assure Compliance with State Law

Review, at least annually, changes in state law with reference to housing and update the City's Zoning Ordinance for conformity where necessary. The first update will include:

Updating the Density Bonus Ordinance and accepted definitions to conform with State law and recent change.

Specifying siting requirements for group homes consistent with state law for small group homes and with a conditional use permit for large facilities. Clearly stated requirements for approval of group homes will give greater certainty to an applicant and remove an impediment to fair housing choice for elderly, disabled or persons with special needs.

Analyzing and determining whether there are constraints on the development, maintenance, and improvement of housing intended for persons with disabilities, consistent with Senate Bill 520. The analysis will include an evaluation of existing land use controls, permit and processing procedures and building codes. If any constraints are found in these areas, the City will initiate actions within six months of the completion of the evaluation to address them, including removing the constraints or providing reasonable accommodation for housing intended for persons with disabilities.

Action: Review, at least annually, revise as needed
Responsibility: Planning Department, Planning Commission, and City Council
Timeline: December 2004
Funding Source: General Fund
Quantifier: Updated Zoning Ordinance

1.1.e Encourage Alternate Housing Types

Encourage, through priority permit processing, the development of alternate housing designs that can be built on smaller footprints. The Planning and Permitting Division will inform potential developers of the benefits/cost savings of alternate housing designs and smaller footprints fostering a larger return on investment (ROI) with more units per acre. Priority processing saves developers time/money to help keep development affordable and is also important for them to meet state, and federal tax credit deadlines.

Action: Add smaller footprint types of affordable housing developments to priority processing program.
Responsibility: Planning Department, Planning Commission, and City Council
Timeline: June 2004
Funding Source: General Fund
Quantifier: Number of units processed

1.1.f Develop Inclusionary Zoning Ordinance for Affordable Housing

The City staff will, guided by a citizen advisory committee, develop a Zoning Ordinance amendment for Planning Commission and City Council consideration to add inclusionary zoning for the provision of affordable housing. Part of the developing analysis will be to evaluate appropriate thresholds that would involve the Ordinance.

<i>Action Item:</i>	Establish a Citizens Advisory Committee – 2004 Conduct analysis and develop Ordinance – 2005
<i>Responsible Agency:</i>	Housing Program, Redevelopment Agency Planning Commission, City Council
<i>Timeline:</i>	2005
<i>Funding Source:</i>	General Fund
<i>Quantifier:</i>	Staff report to City Council to consider adoption

1.1.g Provide Priority to the Housing Needs of Merced Workers and Residents

To the extent that such policy can be legally implemented, the City shall consider adoption of a new ordinance in compliance with Fair Housing Law requiring that all newly constructed inclusionary dwelling units, pursuant to Policy 1.1.f, be provided on a preferential basis to Merced workers and residents in a random manner and in the following order of preference:

1. Persons working in, but not currently residing in, the City of Merced.
2. Merced residents.

This prioritization should be reflected in the re-sale of any owner-occupied home.

<i>Action Item</i>	Dependent on adoption of 1.1.f, staff will investigate and report recommendations to City Council for preferred Ordinance.
<i>Responsible Agency:</i>	Housing Program, Redevelopment Agency Planning Commission, City Council
<i>Timeline:</i>	June 2006
<i>Funding Source:</i>	General Fund
<i>Quantifier:</i>	Staff report to Council

Policy H-1.2

Support Development of Affordable Housing

1.2.a Review Design Standards; Update for Affordability

Deviations may currently be granted by the Planning Commission to improvement standards contained in the Subdivision Ordinance through the Tentative Subdivision Map process. To reduce the need for multiple case-by-case considerations, continue periodic review of infrastructure and road requirements. Identify potential revisions to reduce construction/improvement costs for new development without negative impact to quality or capacity.

This review shall be in conjunction with development representatives such as the Building Industry Association, the City Public Works, Fire and Police Departments, and the Planning Commission and City Council.

Action: Conduct review
Responsibility: Planning Department, Planning Commission, and City Council
Timeline: 2005
Funding Source: General Fund
Quantifier: Up-to-date standards

1.2.b Continue City Housing Program

Provide incentives to encourage affordable housing development.

Action: The Housing Program will continue to assist below market rate units to be sold or rented to persons of low to moderate income. Examples of potential incentives include: fee deferment programs, low interest financing, equity sharing, infrastructure financing assistance, etc.

For any City financial assistance, a developer will be required to meet a 17-20 unit per acre minimum in R-3 zones.

Responsibility: Planning Department, Planning Commission, and City Council
Timeline: December, 2004 and annually thereafter
Funding Source: Housing Program
Quantifier: Assistance to development of at least 100 affordable units per year subject to funding availability

Policy H-1.3

Pursue Joint Development Agreements

1.3 Participate in Joint Development Agreements

Action: Continue City staff exploration and pursuit of feasible development agreements for joint public/private development of affordable rental and ownership housing within the City. Said development agreements shall ensure affordable housing mix, appropriate covenants of affordability terms, and conditional recapture provisions. Specifically, the City will invite developers of affordable housing to participate in Joint Development Agreements.

The City's goal is to execute two agreements annually to achieve 100 units of low-mod housing.

Responsibility: Planning Department
Timeline: Ongoing
Funding Source: Housing Program
Quantifier: Executed Project Agreement

Policy H-1.4
Provide Priority Review and Permitting for Affordable Housing Projects

1.4 One-Stop Permit Center Fast-Track Processing

Action: Continue the City's current procedures for processing development proposals and approving permits, accelerating the permitting process for affordable housing developments. In conjunction with appropriate and effected City departments, periodically review (every 2 years) processes to maintain efficiency.

Responsibility: Planning Department
Timeline: Every 2 years (2004, 2006, 2008)
Funding Source: General Fund
Quantifier: Findings; revisions, if any

Policy H-1.5
Support the Construction of Second Units

1.5.a Review all aspects of the Second Unit Ordinance (Municipal Code 20.10.170, Subsection F) including, but not limited to, size restrictions and occupancy requirements for conformance with recent State law change.

Action: In conjunction with 1.1.d above, revise Second Unit Ordinance as stated.

Responsibility: Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council

Timeline: August 2004

Funding Source: General Fund

Quantifier: Revised Ordinance

1.5.b Encourage Homeowners to Construct Second Units

Action: Publicize the Second Unit Ordinance and the income benefits of second unit construction to homeowners in the City. Link this promotion with information on the availability of low-interest rehabilitation loans and other funding programs to support second unit development and provide technical support as necessary to interested homeowners. Develop brochure describing program and coordinate distribution with Programs of Policy 4.1.

<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>July 2005</i>
<i>Funding Source:</i>	<i>Housing Program</i>
<i>Quantifier:</i>	<i>Brochure published and distributed</i>

Policy H-1.6

Pursue State and Federal Funds for New Housing Construction

1.6.a Apply for Funding to Support New Housing Construction

Identify and pursue available funding sources for affordable housing development such as Multi-Family Housing loans for general and student housing (HCD, Proposition 46 Programs).

<i>Action:</i>	<i>Continue identification of potential fund resources including CDBG and HOME and actively pursue application to state special Proposition 46 housing development and federal programs to assist new construction of affordable housing and supporting infrastructure.</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>Annually</i>
<i>Funding Source:</i>	<i>HUD/HCD Proposition 46</i>
<i>Quantifier:</i>	<i>Projected 100 Housing Units annually subject to availability of funding</i>

1.6.b Provide Assistance for Private and Nonprofit Applicants to State and Federal Programs

<i>Action:</i>	<i>Assist private and nonprofit individuals or organizations in applying for State and Federal funds at least once each year. Assistance may take the form of information referral, consultation regarding program applications, and/or lobbying by local officials on behalf of the applicant.</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>Annually</i>
<i>Funding Source:</i>	<i>General Fund</i>
<i>Quantifier:</i>	<i>Report of participation</i>

Policy H-1.7

Support Housing to Meet Special Needs

1.7.a Continue Continuum of Care Development and Participation

<i>Action:</i>	<i>The City will continue to work with Merced County and the Merced County Association of Governments to implement the Continuum of Care to locate a permanent homeless shelter in Merced, to apply for homeless shelter funding and establish a fund for transitional housing development.</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>FY 2003-2004</i>
<i>Funding Source:</i>	<i>Housing Program</i>
<i>Quantifier:</i>	<i>Funding obtained /units completed.</i>

1.7.b Promote and Develop Housing to Meet Special Needs

<i>Action:</i>	<i>Assist private and nonprofit developers as well as the Central Valley Coalition for Affordable Housing by identifying potential sites and financial resources for the construction of housing to meet special needs. Such projects might include, but are not limited to: senior housing, including congregate care facilities; housing for people with physical and mental disabilities; transitional housing for the homeless; an emergency shelter for the homeless; and housing for large families. The City will further provide assistance to the identified need of additional emergency shelter facilities by applying , for Proposition 46 funding to provide such facilities, or support other agency applications to address this need.</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program, Planning Commission, and City Council</i>
<i>Timeline:</i>	<i>2005</i>
<i>Funding Source:</i>	<i>Housing Program</i>
<i>Quantifier:</i>	<i>Units completed</i>

Policy H-1.8 Ensure Land Availability

1.8.a Infill and Multi-family Lot Inventory

<i>Action:</i>	<i>Develop an inventory of available infill and multi-family lots. The inventory will include location, parcel sizes, amenities, and available infrastructure. Said inventory will be kept current by the City and information will be made available to developers.</i>
<i>Responsibility:</i>	<i>Planning Department, Redevelopment Agency, Housing Program,</i>
<i>Timeline:</i>	<i>2005</i>
<i>Funding Source:</i>	<i>General Fund</i>
<i>Quantifier:</i>	<i>Inventory</i>

1.8.b Provide Ample Land Through Planned Annexation

Action: The City will continue to monitor residential land availability, encourage and pursue annexations as necessary to maintain a 10-year supply of zoned vacant residential property.

Responsibility: Planning Department, Housing Program, LAFCo

Timeline: Continuous

Funding Source: General Fund

Quantifier: Inventory

Goal H-2: Housing Conservation and Rehabilitation

- **Ensure Quality Affordable Housing through the Conservation and Rehabilitation of the Existing Housing Stock**

POLICIES

H-2.1 Continue the City's Housing Rehabilitation Loan Program

H-2.2 Pursue State and Federal Funds to Support Conservation and Rehabilitation

Policy H-2.1

Continue the City's Housing Rehabilitation Loan Program

2.1.a Continue the Housing Rehabilitation Loan Program

Action: *Continue to allocate monies from the City's Affordable Housing Program and expand the City's Housing Rehabilitation Loan Program. Through the Program, provide low-interest rehabilitation loans to qualifying homeowners and owners of rental properties. Loan principal and interest are paid back over time through a revolving loan pool that is then used to assist others in upgrading their units to meet code requirements and quality standards. Program loan monies may also be supplemented with Home Improvement Funds from PG&E based on fund availability and household eligibility. Program staff will continuously explore avenues of increasing available broad-based funds.*

Responsibility: *Housing Program*

Timeline: *Continuous*

Funding Source: *General Fund, Redevelopment Agency*

Quantifier: *30 rehabilitations annually*

2.1.b Consider establishment of Historic District

Action: *Conduct a feasibility study to determine extent of financial or other benefits to housing preservation efforts in the City's core area through the establishment of a Historic District. Pursue designation if feasible and approved by the City Council.*

Responsibility: *Redevelopment Agency*

Timeline: *2007*

Funding Source: *General Fund or Redevelopment Agency*

Quantifier: *Completion of study*

2.1.c Identify and Notify Owners of Substandard Units

Action: Notify property owners regarding available rehabilitation programs to remedy code violations.

Responsibility: Code Enforcement, Housing Program

Timeline: Continuous

Funding Source: Housing Program/Code Enforcement Program

Quantifier: Frequency annually

2.1.d Provide Public Information on Preventive Maintenance and Energy Conservation

Action: Utilize Public Service Announcements (PSAs) and other information dissemination programs such as the City's FOCUS magazine to educate the public on low-cost preventative maintenance and energy conservation measures they can take to prolong the life and quality of their home and reduce their long-term utility and maintenance costs. Continue provision and distribution of City's "Homeowner Preventative Maintenance" brochures and referral to local lender counseling programs.

Responsibility: Housing Program

Timeline: 6-10 PSAs annually / ongoing

Funding Source: Housing Programs / Private Lenders / Non-Profits

Quantifier: Record of presentations

2.1.e Conservation of At-Risk Units

Action: The City will continue to contact owners and operators of such units at least annually to monitor when/if the units are being considered for conversion. The City will, as needed, assist potential non-profit buyers to apply for California Housing Finance Agency funding to purchase and operate "At-Risk" facilities for continued affordability.

Responsibility: Housing Program

Timeline: Annually

Funding Source: Housing Program

Quantifier: Unit Preservation

2.1.f Energy Conservation

Action: The City shall assist low-income homeowners and renters in securing energy audits through local utility companies. Informational flyers should be provided at City offices, and other public buildings to advertise funding sources for making any necessary changes that include energy conservation fixtures and devices.

Responsibility: Housing Program

Timeline: Ongoing
Funding Source: Housing Program
Quantifier: Brochures developed, distributed

2.1.g Energy Conservation and Weatherization

Action: Initiate program to provide weather stripping, outlet covers, and hot water heater insulating blankets purchased by the Redevelopment Agency or City Housing Program to be made available to low/moderate income families. Arrange needed installation assistance for seniors and/or disabled through local community group, churches, senior center, or service organization(s).

Responsibility: Housing Program
Timeline: Ongoing
Funding Source: Housing Program/Redevelopment Agency
Quantifier: 25 Households assisted annually

Policy H-2.2

Pursue State and Federal Funds to Support Conservation and Rehabilitation

2.2 Apply for State and Federal Funds to Support Housing Conservation and Rehabilitation

Action: Identify and apply for funding at the State and Federal levels to help finance housing conservation and rehabilitation in the City. When possible, pursuit of State and Federal monies shall be coordinated with other local agencies and jurisdictions, with private developers and/or with local lending institutions.

Responsibility: Housing Program
Timeline: Annually
Funding Source: Housing Program
Quantifier: Awarded funds
Monitoring: Annual report to Council

Goal H-3: Housing Affordability

- **Increase Homeownership Opportunities for Low and Moderate Income Groups**
- **Provide Financial Assistance as Needed to Very Low and Low Income Renter Households**

POLICIES

H-3.1 Provide Financial Assistance to Qualifying Homebuyers and Renters

Policy H-3.1

Provide Financial Assistance to Qualifying Homebuyers and Renters

3.1.a Pursue State and Federal Funds for Down Payment Assistance

Action: *Continue the City's revolving loan fund to provide low-interest loans to first-time low and moderate income homebuyers. Expand utilization of the loan pool to provide "affordability gap" between housing prices and household incomes to sustain a live/work environment. The loan pool is a self-sustaining funding source, with established guidelines setting forth terms and conditions for loans. Annually review loan amount caps, need for requirement changes, etc., to meet changing housing markets.*

Responsibility: *Housing Program*

Timeline: *Ongoing/Annually*

Funding Source: *Housing Program*

Quantifier: *50 Low-Mod first-time homebuyers Downpayment Assistance Loan annually*

3.1.b Coordinate with Local Agencies to Provide Low and Very-Low Income Housing Assistance

Action: *Work with other agencies to assist in identifying and procuring funding for low and very-low income rental programs. Examples of other agencies include, but are not limited to Housing Authority (Section 8), Community Action and Salvation Army (displaced person's temporary assistance and limited financial grants), Continuum of Care partners (transitional housing and homeless shelters).*

Responsibility: *Housing Program*

Timeline: *Ongoing*

Funding Source: Housing Program/General Fund
Quantifier: Successful application

3.1.c Establishment of a Housing Trust Fund

Action: The City shall investigate the feasibility of a Housing Trust Fund to invest in affordable housing of benefit to the community. The study shall identify appropriate public and private sources to capitalize the trust, the appropriate organizational structure and administering agency, and establish guidelines for the investment of funds and other assets which are deposited in the fund. Once established, one of the guiding goals of this Land Trust should be to provide homeownership opportunities for lower and moderate income families and individuals in Merced. Upon feasible results of study the City will develop eligibility guidelines and initiate program.

Responsibility: Housing Program

Timeline: 2004-2006

Funding Source: Housing Program

Quantifier: Feasibility Study Concerning Establishment of a Housing Trust Fund

3.1.d Establishment of a Community (Housing) Land Trust

Action: The City shall investigate the feasibility of establishing a non-profit Community Land Trust to create and preserve affordable housing through acquisition, development and perpetual ownership of land for the benefit of the community. If the Community Land Trust is determined to be feasible, the City shall sponsor the formation of a non-profit Community Land Trust in conformance with the Community Land Trust Model established by the Institute for Community Economics to accept donations of land and funds, and to administer such assets to ensure that housing constructed on the land is affordable in perpetuity.

Responsibility: Housing Program

Timeline: 2005-2007

Funding Source: Redevelopment Agency

Quantifier: Completion of Feasibility Study Concerning Establishment of a Housing Trust Fund

Goal H-4: City Coordination

- **Coordinate Innovative Housing Efforts with Private and Nonprofit Developers as well as Other Jurisdictions and City Departments**
- **Ensure Accountability and Success of the Housing Action Plan**

POLICIES

H-4-1 Educate the Public Regarding Affordable Housing Issues and Programs

H-4.2 Support the City of Merced General Plan Update

Policy H-4-1

Educate the Public Regarding Affordable Housing Issues and Programs

4.1.a Provide Ongoing Public Information on Affordable Housing Issues and Programs

Action: Establish community notification list including, but not limited to Housing Authority, Chamber of Commerce, schools, grocery and drug stores, PSAs, Community Resource Counsel, civic and service organizations and community centers. Mail out information flyers and provide public presentations on affordable housing issues and programs in the City of Merced to such groups in addition to City residents, developers, and local lenders, by placing program brochures, copies of City documents, and other pertinent information in the City libraries and at the Merced Civic Center. In addition, make this information available to community-based groups serving lower income residents, such as the Lao Family Community Center and add information to the City website.

Consider program for builders and developers' informational meeting explaining available programs and designations.

Responsibility: Housing Program

Timeline: Ongoing

Funding Source: Housing Program

Quantifier: 2 presentations each year outside of City Hall, 2 inside

4.1.b Establish a Tenant and Landlord Education Program

Action: Continue work with the County Housing Authority, the Merced County Rental Housing Association, and other relevant organizations and provide sponsorship of Fair Housing and

	<i>Tenant/Landlord relationships and rights workshops to educate tenants and landlords on their rights and responsibilities.</i>
<i>Responsibility:</i>	<i>Housing Program</i>
<i>Timeline:</i>	<i>Ongoing</i>
<i>Funding Source:</i>	<i>General Fund</i>
<i>Quantifier:</i>	<i>3 workshops each year, plus updated materials</i>

Policy H-4.2
Support the City of Merced General Plan Update

4.2.a Work with Planning Staff to Update the City of Merced General Plan

<i>Action:</i>	<i>City Housing Program staff will continue work with the City's planning staff on the comprehensive update of the City of Merced General Plan. In particular, the General Plan Land Use Element shall be reviewed and updated to reflect the goals and policies of the Housing Action Plan and Housing Element of the General Plan, including an evaluation of residential densities (Implementing Program H-1.1a) in the City and mechanisms for increasing density (e.g., allowing multi-family construction) where appropriate and where a percentage of units are guaranteed at below-market rates (in accordance with the proposed Affordable Housing Ordinance).</i>
<i>Responsibility:</i>	<i>Housing Program</i>
<i>Timeline:</i>	<i>Ongoing</i>
<i>Quantifier:</i>	<i>Land Use Plans updated pursuant to Housing Element</i>
<i>Monitoring:</i>	<i>Within 2 years of Housing Element adoption</i>

Goal H-5: Quantified Objectives

Income Category	New Construction	Rehabilitation	Conservation
<i>Very Low Income</i>	1,073	204	74
<i>Low Income</i>	793	153	55
<i>Moderate Income</i>	887	153	56
<i>Above Mod. Income</i>	1,913	0	0
	4,666	510	185

Table 9.6.1

Program Objectives

		Fiscal Year Ending					Total
Program Objectives		2004	2005	2006	2007	2008	
1.2.b ,1.3, 1.6.b, 1.7.b	Residential Infrastructure Improvements	200	200	200	200	200	1,000
	Housing Rehabilitation						
2.1.a	Moderate	10	10	10	10	10	50
2.1.a	Substantial	5	5	5	5	5	25
2.1.a	Housing Replacement	10	10	10	10	10	50
2.1.c, d, & 4.1.a	Information Dissemination	1,000	1,000	1,000	1,000	1,000	5,000
1.1.c	In fill Development	4	4	4	4	4	20
2.1.a, c	Code Enforcement	30	30	30	30	30	150
3.1.a	First Time Homebuyers	50	100	100	50	50	350
1.2.b, 1.3, 1.6.b, 1.7.b	New Construction-Low Income/Special Needs	204	120	120	200	200	844
1.6.a	New Construction - Low Income Housing	80	80	100	120	110	490
2.1.a	Special Needs Housing Rehabilitation	10	10	10	10	10	50
2.1.a	Weatherization	30	30	30	30	30	150
2.1.g	Energy Programs	25	25	25	25	25	125
4.1.a, b	Program/Renters-Landlords Workshops	7	7	7	7	7	35
	Total Assisted Units	1,665	1,631	1,651	1,701	1,691	8,339

Table 9.6.2

Program Costs

Program Costs	Fiscal Year Ending					
	2004	2005	2006	2007	2008	Total
Residential Infrastructure Improvements	\$200,000	\$205,000	\$210,125	\$215,378	\$220,763	\$1,051,266
Housing Rehabilitation						\$ -
Moderate	\$150,000	\$153,750	\$157,594	\$161,534	\$165,572	\$788,449
Substantial	\$125,000	\$128,125	\$131,328	\$134,611	\$137,977	\$657,041
Housing Replacement	\$500,000	\$512,500	\$525,313	\$538,445	\$551,906	\$2,628,164
Information Dissemination	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$ 25,000
In fill Development	\$100,000	\$102,500	\$105,063	\$107,689	\$110,381	\$525,633
Code Enforcement	\$300,000	\$307,500	\$315,188	\$323,067	\$331,144	\$1,576,899
First Time Homebuyers	\$750,000	\$1,700,000	\$1,700,000	\$1,000,000	\$1,000,000	\$6,150,000
New Construction-Low Income/Special Needs	\$ 10,200,000	\$6,000,000	\$6,000,000	\$ 10,000,000	\$ 10,000,000	\$ 42,200,000
New Construction - Low Income Housing	\$800,000	\$800,000	\$1,000,000	\$1,800,000	\$1,650,000	\$6,050,000
Special Needs Housing Rehabilitation	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 75,000
Weatherization	\$750	\$750	\$750	\$750	\$750	\$3,750
Energy Programs	\$1,250	\$1,250	\$1,250	\$1,250	\$1,250	\$6,250
Program/Renters-Landlords Workshops	\$700	\$700	\$700	\$700	\$700	\$3,500
Contingency and Admin	\$442,155	\$589,811	\$625,096	\$645,514	\$628,566	\$2,931,143
Total	\$ 13,589,855	\$ 10,521,886	\$ 10,792,406	\$ 14,948,938	\$ 14,819,009	\$ 64,672,094
Program Funding						
CDBG	\$1,526,000	\$1,564,150	\$1,603,254	\$1,643,335	\$1,684,418	\$8,021,157
Proposition 46 Housing Programs	\$500,000	\$500,000	\$500,000	\$500,000	\$ -	\$2,000,000
HOME	\$700,348	\$717,857	\$735,803	\$754,198	\$773,053	\$3,681,259
Low Income Housing Tax Credits	\$ 10,200,000	\$6,000,000	\$6,000,000	\$ 10,000,000	\$ 10,000,000	\$ 42,200,000
Redevelopment Set aside	\$600,000	\$630,000	\$661,500	\$694,575	\$729,304	\$3,315,379
Program Income	\$1,000,000	\$1,189,430	\$1,384,621	\$1,585,767	\$1,793,071	\$6,952,889
Total	\$ 14,526,348	\$ 10,601,437	\$ 10,885,178	\$ 15,177,875	\$ 14,979,847	\$ 66,170,684

9.7 PUBLIC PARTICIPATION

9.7.1 Housing Element Task Force – 2003

The City of Merced extends its appreciation for the invaluable input from the Housing

Element Task Force. In addition to time devoted to workshop discussions and review of the document as it was developing, they also provided a great deal of local insight to identify needs and avenues of resolution. Members and organizations, groups, or interests they represented were:

Name	Organization	Interest
Michele Woodburn	The Independence Resource	Disabled
Randy Smith	The Independence Resource	Disabled Senior Tenant
Jean Kennedy	The Lighthouse	AIDS
Tom Min	Central Ca Legal Services	Fair Housing
Paul Thao	Merced Lao Family Community	Southeast Asians
Maryam Shabazz	Coldwell Banker	Realtors
Chuck Reyburn	Housing Authority Of Merced County	Housing Authority
Maria Lucio	Housing Authority Of Merced County	Low Income Tenant
Helen Connon	Center For Independent Living	Homeless
Christina Alley	Central Valley Coalition For Affordable Housing	CHDO
Harry Dull	Merced County Community Action Agency	Homeless/County
Ed Taczanowsky	Building Industry Association Of Central California	Builders
Rick Bungcayao	Merced County Agency On Aging	Elderly
Chris Tafoya	Hispanic Chamber Of Commerce	Hispanic Chamber of Commerce
John Jepson	Central Valley Opportunity Center	Low Income
John Sessions	H/S Development	Developer
Linda Lopez	Planning Commission	Planning Commission
David Love	Planning Commission	Planning Commission
Greg Kramp	U.C. Merced	U.C. Merced
Henry Ferguson	County Bank	Bankers/Lenders
Orion Fulton	Great Valley Center/Self-Help Enterprises	Affordable Housing
Milt McDowell		Citizen

The Task Force members represented a wide range of personal experience, incomes, special needs and professional knowledge of the housing industry and housing availability in the City of Merced and surrounding region. Meetings were well-attended by the majority of Task Force members.

Synopsis of Task Force Meetings

Four meetings were held with the Task Force Committee as a whole and several members provided information individually, relative to their fields of expertise and experiences. Agendas and minutes of the meetings are available at City Hall and generally reflected the following discussion topics.

Meeting #1	Review and Revision of current programs/goals
Meeting #2	Housing Resources and Constraints
Meeting #3	New/revised Policies, Objections and Programs
Meeting #4	Review of the Draft update <i>Intergovernmental Coordination</i>

The City of Merced Council members, City Manager, Planning and Public Works staff work closely with regional planning agencies including the Merced County Association of Governments, Housing Authority of Merced County, and the Merced County Community Action Agency. Circulation of the Housing Element occurred to all interested agencies seeking their comments.

The objectives, goals, policies, and use of funding in the Housing Element are not substantially different than those of the General Plan. In conjunction with the General Plan and revisions currently underway, the Planning Commission will adopt a finding of internal consistency among all City plans, policies, and ordinances. When amendments are made to the existing plans, including the General Plan, the City Council or the Planning Commission must find them to be consistent with the existing General Plan before approving the amendment. This is how the consistency among plans, amendments, and

ordinances within the City of Merced is maintained.

9.7.2 Environmental Review

A programmatic environmental review is being conducted and will be circulated for comment during the 60-day public review period for the draft Housing Element. It is anticipated that a Negative Declaration will be adopted at the time of Housing Element adoption along with appropriate Findings of Consistency.

9.7.3 Performance Evaluation

At least annually, the City of Merced will review the programs of the 2003 Housing Element to track and record progress of implementation. An annual status report of housing actions will be made to the Planning Commission and City Council in the City's General Plan Annual Report in July/August of each year.

9.7.4 Provision For Update

During each annual reporting period and particularly during the required mid-program review due to the public presented to the City Council in Fiscal Year 2004-2005, current information and program progress may indicate the need for adjustments to be made. Said adjustments, as appropriate, may be made at that time.

Chapter 10--Noise

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(Adopted by Merced City Council on March 15, 1993 by Resolution #93-29)

(Format Changes/Minor Revisions--7/12/96)



Chapter 10

Noise

10.1 INTRODUCTION

The main purpose of the Noise Element is to identify noisy areas and to provide measures for protecting residents from the harmful effects of excessive noise. The Noise Element is based on an analysis of current and projected noise levels for streets and highways, railroads, and airports. Existing noise-sensitive land uses such as hospitals, rest homes, schools, and long-term medical care facilities are identified and a set of City policies are established to deal with excessive noise.

10.1.1 Scope of the Noise Element

The Noise Element provides a systematic approach to: (1) the measurement and modeling of noise; (2) the establishment of noise standards; (3) the control of major noise sources; (4) community planning for the regulation of noise; and, (5) the achievement of land use compatibility through the adoption of specific policies with respect to noise.

Existing noise contours for all major sources of noise in the City of Merced have been identified: [Table 10.1 (Rail); Table 10.4 (State Highways through the City); Tables 10.6 (Local Streets); and Figure 10.3 (Municipal Airport)].

Projected noise contours for the year 2010 for all noise sources are illustrated in Figure 10.1. Projected noise contours are also described in Table 10.2 (Rail); Table 10.4 (State Highways), Tables 10.7 and 10.8 (Local Streets), and Figure 10.3 (Municipal Airport).

These noise contours are used as a guide for establishing land use patterns in the Land Use Element that minimize the exposure of community residents to excessive noise. The Noise Element also includes policies and implementation measures that address existing and any foreseeable noise problems.

10.1.2 Noise Sources & Noise Abatement Techniques

Cars and trucks, aircraft, and trains are the most pervasive outdoor residential noise sources. Several approaches can be taken to lower the impact of noise from all the previously-mentioned sources. Barriers can be used to provide some attenuation. The amount of noise reduction depends upon the material and design of the barrier. Solid structures provide the most attenuation; vegetation will only abate noise a little, but psychologically can provide a more

relaxed environment (see *Figure 10.2a*). An intervening row of buildings will decrease the amount of noise reaching more distant property.

Reducing Vehicular Noise

At the source, vehicular noise can be lowered through enforcement of noise level regulations and, if federal or state legislation provide the proper incentives, quieter vehicles can be produced. Reducing traffic speed can also reduce noise output.

Measures that eliminate stop-and-go traffic help to reduce noise levels. To a certain extent, grade separations will do this, although increased acceleration of trucks will minimize the benefits. Wider rights-of-way and increased setbacks can reduce the possible impact on adjacent land uses (see *Figure 10.2b*). Recessing or elevating a roadway also reduces noise levels on adjacent property.

Reducing Train Noise

Like vehicular traffic, trains produce a linear noise pattern. Noise attenuation measures used to abate noise along highways also can be used along railways. Other noise-reduction methods include reducing the speed of the train, improving rail connections, and limiting night-time traffic.

Reducing Aircraft Noise

Noise from aircraft radiates in all directions so building noise barriers is not effective. It is possible to insulate buildings to achieve an acceptable interior noise level, and changes are being made to reduce aircraft noise at the source. In many cases, it is possible to

modify flight patterns, take-off and landing techniques, or flight schedules.

The most effective means for reducing the impact of aircraft noise is to prohibit noise-sensitive uses in high noise areas through land use planning and zoning. Effective land use controls should be initiated early to minimize the level of development in areas impacted by aircraft noise.

Military aircraft are noisier than civilian airplanes. The phasing out of nearby Castle Airbase (closed in 1995) and its conversion to civilian use means much lower noise levels for the City.

10.1.3 Definitions

Sound:

Sound is a mechanical form of radiant energy which is transmitted in waves through the air (or other medium) and received as vibrations on the ear drum. Sound waves are measured in terms of frequency or number of cycles per second, and in terms of amplitude or decibels.

Frequency (Cycles per Second)

Frequency or pitch is influential in determining the pleasantness of a sound. The human ear can perceive frequencies as low as 15 cycles per second (or Hertz, abbreviated Hz) which would be a very low rumble, and as high as 20,000 cycles per second, a very high screech. The piano ranges from a low of 28 Hz to a high of 4,186 Hz. High frequencies are more irritating to the human ear and can make a low volume noise seem noisier.

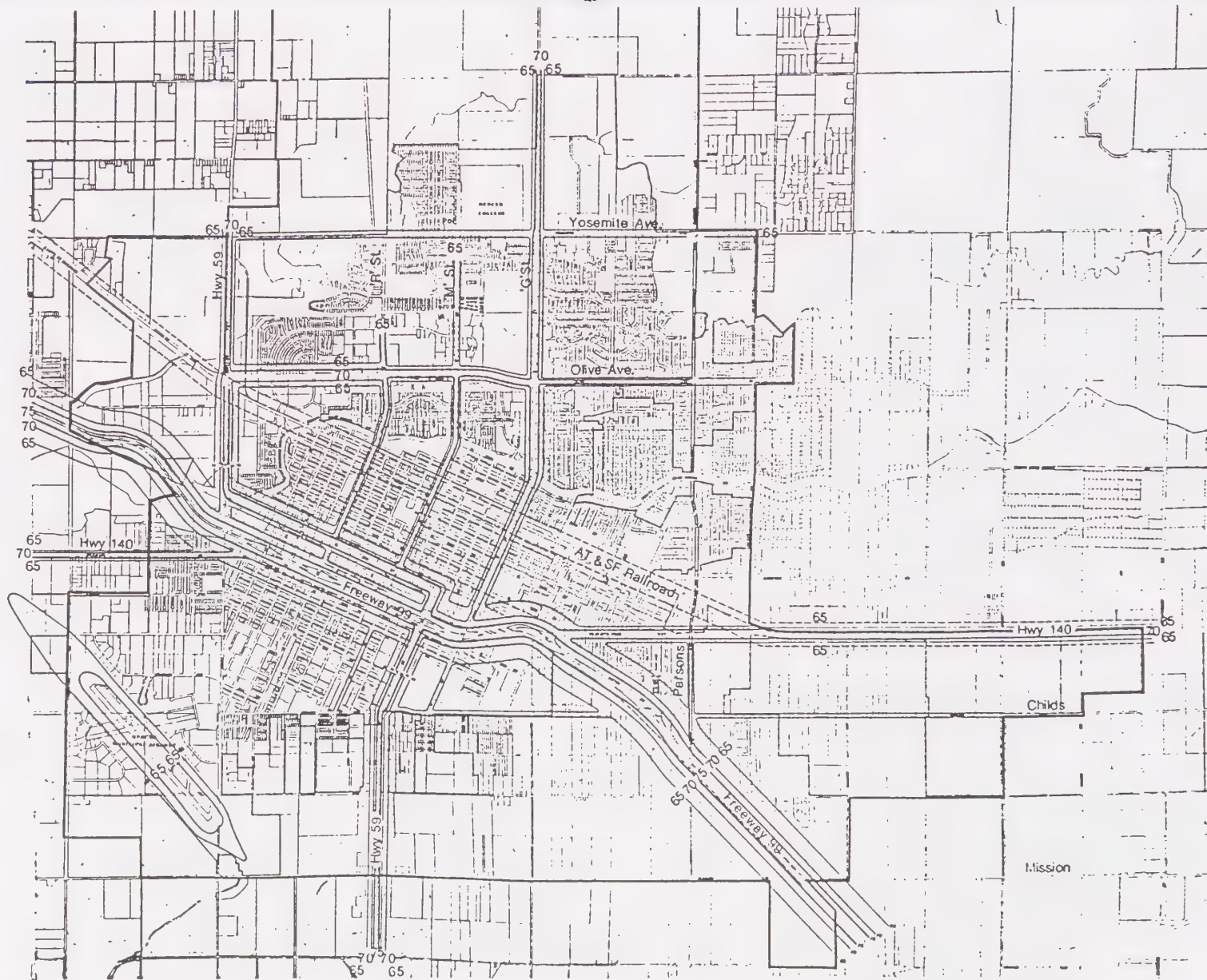
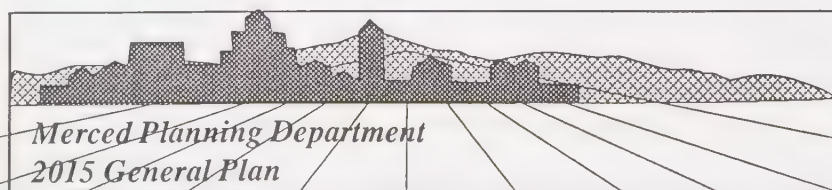
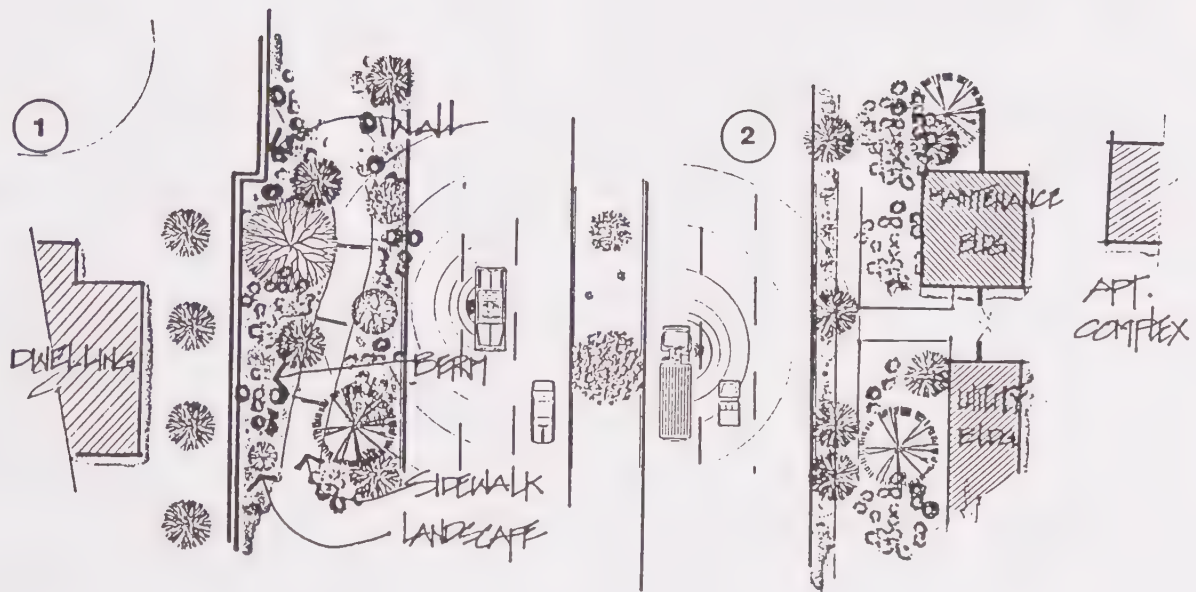


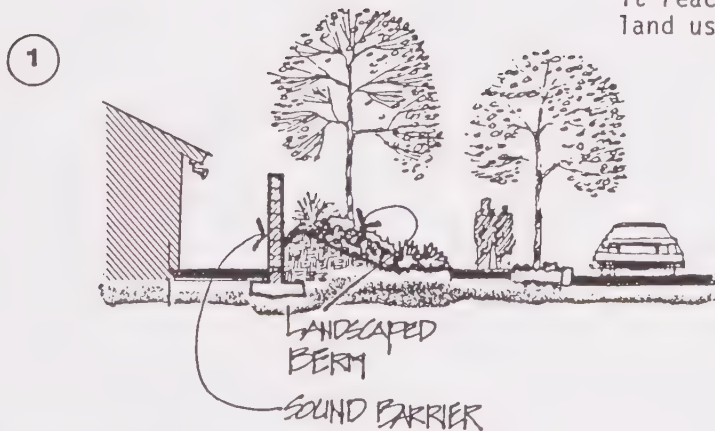
Figure 10.1

Projected Noise Contours (2010)





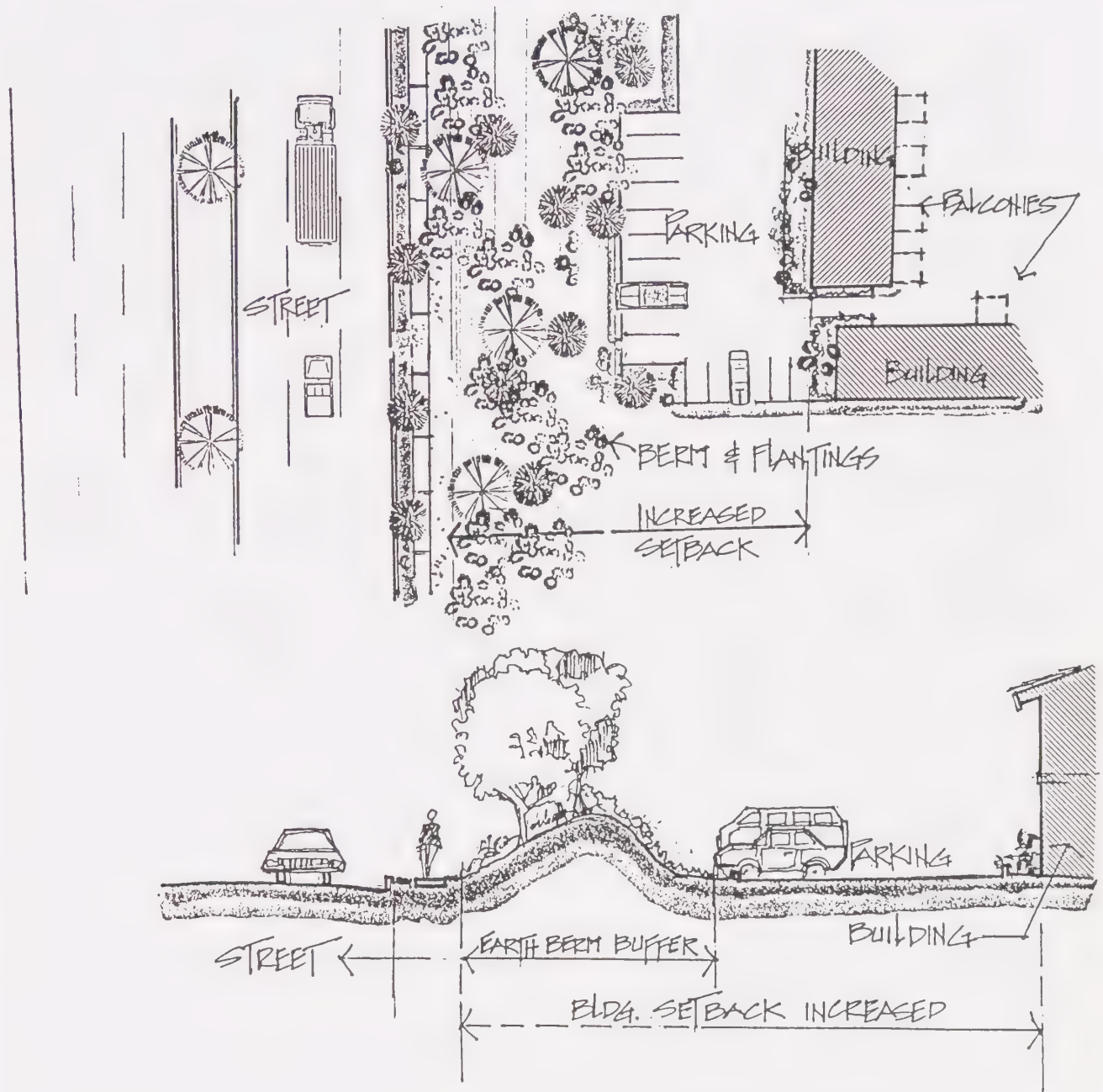
- 2 Orientation of noise tolerant components between the noise source and the receptor will attenuate noise before it reaches (noise) sensitive land uses.



- 1 Combination of a wall and landscaped berm help mitigate noise. The landscaped berm also softens the visual impact of the wall.

Figure 10.2a

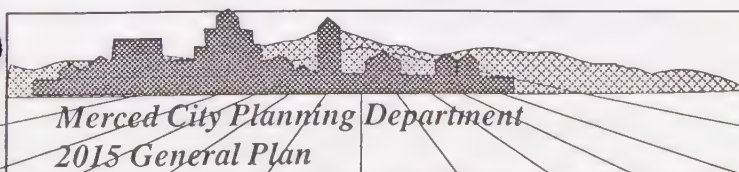
Noise Abatement Techniques



Combination of an earth berm buffer and increased setbacks, location of noise tolerant uses closer to the noise source, and location of balconies, arcades, etc., towards the inside of a complex are techniques that can be used to minimize noise.

Figure 10.2b

Noise Abatement Techniques



Amplitude

Decibels, the unit of measurement for amplitude, make up a logarithmic scale. Instead of increasing arithmetically, as in cycles per second, decibels increase exponentially as is characteristic with the Richter Scale used in measuring the force of an earthquake. There are several adaptations of the decibel unit of measurement that take into account the way humans react to sound. These adaptations are listed below.

Decibel (A Scale)-dB(a)

The decibel is the unit used for describing the amplitude of sound (*Figure 10.2c*). The decibel scale is relative to the human ear, with 0 decibels being the threshold of hearing. Because the human ear's perception of sound varies with the frequency, a modified decibel scale (A Scale) has been developed which incorporates the human's greater sensitivity to high frequency sound and lower sensitivity to low frequency sound.

L10

In measuring a sound that is recurring but not maintaining a constant level, it is necessary to get a sound reading that takes into account the inconsistency of sound. L10 measurements indicate a sound level that is being exceeded 10 percent of the time.

Day-Night Average Sound Levels (LdN)

This method of measuring sound levels incorporates the noise from the individual events and weights them according to time of day of the event. The 24-hour day is divided into two time periods: (1) Day, 7:00 a.m. to 10:00 p.m.; and, (2)

Night, 10:00 p.m. to 7:00 a.m. In order to more accurately reflect the annoyance level of day and night-time events, they are weighted by a multiplier of one (1) for day and ten (10) for night. Unlike the L10 method, LdN does not measure the actual noise of, for example, passing trains, but rather the average noise over a period of 24 hours. LdN or CNEL are the two descriptors to be used in Noise Elements for local compliance with the State Noise Insulation Standards.

CNEL

Community Noise Equivalent Level (CNEL) is similar to LdN, but with an additional adjustment for the evening hours to account for conversation, relaxation, TV viewing, etc. Along with the 10 dBA penalty for the 10:00 p.m. to 7:00 a.m. hours, 5 dBA is added to the 6:00 p.m. to 10:00 p.m. hours.

Decibel Addition

Decibels progress at a logarithmic rate. As a result, when two sounds of 90 dB(A) are produced together, the combined dB(A) reading will be 93 dB(A) and not 180 dB(A). The following chart can be used to determine the sound level of the combined sounds:

<i>When two decibel values differ by:</i>	<i>Add the following amount to the higher figure:</i>
0 - 1 dB	3 dB
2 - 3 dB	2 dB
4 - 9 dB	1 dB
10 or more dB	0 dB

The human ear, however, perceives a doubling (or halving) of loudness for every change of 10 dB(A).

Figure 10.2c

Common Indoor and Outdoor Noise Levels

Common Outdoor Noise Levels	Noise Level (dBA)	Common Indoor Noise Levels
	110---	Rock Band
Jet Flyover at 1000 ft	100---	Inside Subway Train (New York)
Gas Lawn Mower at 3 ft	90---	
Diesel Truck at 50 ft	80---	Food Blender at 3 ft
Noisy Urban Daytime	70---	Garbage Disposal at 3 ft
Gas Lawn Mower at 100 ft	60---	Shouting at 3 ft
Commercial Area	50---	Vacuum Cleaner at 10 ft
Heavy Traffic at 300 ft	40---	Normal Speech at 3 ft
Quiet Urban Daytime	30---	Large Business Office
	20---	Dishwasher in Next Room
Quiet Urban Nighttime	10---	Small Theatre, Large Conference Room (Background)
Quiet Suburban Nighttime	0---	Library
Quiet Rural Nighttime		Bedroom at Night
		Concert Hall (Background)
		Broadcast and Recording Studio
		Threshold of Hearing

10.2 NOISE GOALS, POLICIES AND ACTIONS

Goal Area N-1: Noise

GOALS

- **A Quiet Environment**
- **Sensitive Land Uses Protected From Excessive Noise**

POLICIES

- N-1.1** Minimize the impacts of aircraft noise.
- N-1.2** Reduce surface vehicle noise.
- N-1.3** Reduce equipment noise levels.
- N-1.4** Reduce noise levels at the receiver where noise reduction at the source is not possible.
- N-1.5** Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources.
- N-1.6** Mitigate all significant noise impacts as a condition of project approval for sensitive land uses.

Policy N-1.1

Minimize the Impacts of Aircraft Noise.

Implementing Actions:

- 1.1.a** Continue to follow the established noise abatement procedures for the Merced Municipal Airport, such as no right turn after take-off from Runway 30.
- 1.1.b** Encourage the use of noise-reducing flight procedures for large aircraft using Merced Municipal Airport, such as maintaining minimum flight altitudes.
- 1.1.c** Follow the recommendations stated in the Merced Municipal Airport (MMA) Master Plan, such as to limit industrial/commercial uses to those with peak occupancy levels of no more than 25 persons/acre in the designated Safety Zone #2 of the Airport Land Use Commission Policy Plan; and to prohibit residential land use designation within the referral area of the MMA in the Land Use Element.
- 1.1.d** Work with the Joint Powers Agency to minimize future noise impacts from any proposed aircraft reuse of the former Castle Air Force Base (CAFB) facility.
- 1.1.e** Update projected noise contours as information becomes available.

Policy N-1.2
Reduce Surface Vehicle Noise.

Implementing Actions:

- 1.2.a Continue to discourage truck traffic and through traffic in residential areas in Merced.
- 1.2.b Evaluate the need to prepare and adopt a Noise Ordinance for the City of Merced.

Policy N-1.3
Reduce Equipment Noise Levels.

Implementing Actions:

- 1.3.a Limit operating hours for noisy construction equipment used in the City of Merced.
- 1.3.b Review City functions (e.g. construction, refuse collection, street sweeping, tree trimming) to insure that noise generated by equipment has been reduced to the lowest practicable level.
- 1.3.c Include maximum noise level permitted for City equipment purchases and construction contracts.

Policy N-1.4
Reduce Noise Levels at the Receiver where Noise Reduction at the Source is Not Possible.

Implementing Actions:

- 1.4.a Require new residential projects to meet acceptable noise level standards as follows:
 - A maximum of 45 dB for interior noise level for residential projects.
 - A maximum of 60 dB for exterior noise level, especially when outdoor activities are important components of a project.
 - A maximum of 65 dB when all the best available noise-reduction techniques have been exhausted without achieving 60 dB, and the strict application of such a maximum becomes a hindrance to development needed or typical for an area.
 - A maximum of 70 dB for rail noise when 45 dB is maintained in bedrooms and the accumulation of the total number of noisy events does not exceed 45 dB for more than 30 minutes during night-time hours (11:00 p.m. to 7:00 a.m.) and does not exceed an accumulated 60 minutes during any 24-hour period.
- 1.4.b For areas within Merced that were formerly impacted by aircraft noise from Castle Air Force Base (CAFB), work to eliminate added federal noise mitigation measures that apply to construction only within these areas.

- 1.4.c Use the "normally acceptable" noise levels as established in the "Noise and Land Use Compatibility Guidelines" (Figure 10.6) for the review of non-residential land uses.
- 1.4.d Evaluate the need for, and the cost of, setting up an enforcement program, including liaison with the Merced County Health Department, for assistance in on-site noise measurement.

Policy N-1.5

Coordinate Planning Efforts so that Noise-Sensitive Land Uses are not Located Near Major Noise Sources.

Implementing Actions:

- 1.5.a Create a master noise contours map to be used in the review and approval process for development proposals, as well as for evaluating Circulation, Land Use, and Open Space plans to minimize noise impacts on noise-sensitive areas.
- 1.5.b As feasible revise and redesignate in the Land Use Element areas that are in conflict with the noise level generated in the vicinity.
- 1.5.c As feasible, require noise barriers and/or increased setbacks between heavy circulation corridors and noise-sensitive land uses (see Figures 10.2a and 10.2b).
- 1.5.d Require field noise measurements when new development may be impacted by high noise levels.

Policy N-1.6

Mitigate All Significant Noise Impacts as a Condition of Project Approval for Sensitive Land Uses.

Implementing Actions:

- 1.6.a Consider site design techniques for new construction as the primary means to minimize noise impacts, such as building placement, increased landscaped setbacks, orientation of noise-tolerant components (i.e. parking, utility areas, maintenance facilities) between the noise source and the receptor, use of a combination of noise barriers and landscaped berms, etc. (see Figures 10.2a and 10.2b).
- 1.6.b Encourage developers to consider alternative architectural designs as a means of meeting noise reduction requirements, such as:
 - Use noise tolerant rooms (kitchen, garages, bathrooms) to shield other noise sensitive rooms or areas (living rooms, bedrooms).
 - Locate bedrooms away from major roadways.
 - Use architectural design techniques and materials for building facades that will help shield noise.
 - Avoid balconies or operable windows facing major travel routes.

10.3 MAJOR SOURCES OF NOISE IN THE CITY OF MERCED

Major sources of noise in the City of Merced are cars and trucks, trains, and aircraft; other sources of noise are home appliances, tools, and construction equipment.



10.3.1 Vehicular Noise

State Highway Noise Contours

There are three State highways within the study area (Routes 99, 140, and 59). The highest vehicular noise levels are associated with Highway 99. Current noise levels range from 65 LdN to 75 LdN at 532 feet and 149 feet, respectively, from the center of the highway, and future levels are projected to increase approximately 3 dB(A) LdN at the same distances.

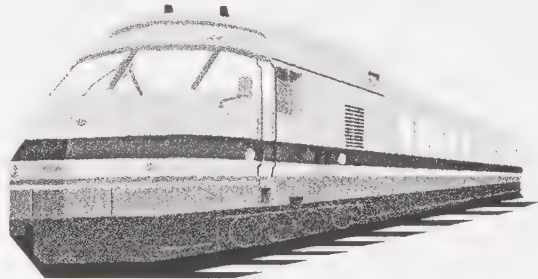
The California State Department of Transportation (Caltrans) has developed noise contour distances showing existing noise levels along State highways and freeways. The existing measurements were derived using a traffic noise model (National Cooperative Highway Research Program #117). No on-site measurements of noise were taken. The existing noise contour values have been extrapolated down to 60 dB(A) noise level for highways adjacent to Merced Community Medical Center and Joe Herb Park. (See Section 10.4.5, *Tables*

10.3 and 10.4, for State Highway noise contours.)

Noise Contours and Methods of Measurement for Major Local Streets

LdN noise contours have been computed for Olive, Yosemite, Childs, and Parsons Avenues, "G", "M" and "R" Streets, and North Bear Creek Drive, which are considered major local streets that carry relatively heavy traffic. In 1991, Brown-Buntin Associates, Inc., noise consultants, performed traffic noise exposure calculations for the above-mentioned streets for the City of Merced.

Section 10.4.5 contains the computations used for calculating noise contour lines. *Tables 10.4* and *10.6* through *10.8* show existing and projected noise contour lines for these major local streets, including Parsons Avenue (*Table 10.7*).



10.3.2 Rail Traffic Noise

Two rail lines run through the City of Merced--the Southern Pacific Transportation Company (SPTC) and the Atchison, Topeka, and Santa Fe (AT&SF).

In measuring the noise levels of rail traffic there must be some indication of train frequency and time of passage. The day-night average sound level method does this by incorporating the noise from the individual events and weighting them according to time of day

of the event. A train passing between the hours of 7:00 a.m. and 10:00 p.m. is multiplied by a factor of one, while a train passing between the hours of 10:00 p.m. and 7:00 a.m. is multiplied by a factor of 10. This widely used method more accurately reflects the annoyance level of the rail traffic.

Southern Pacific Transportation Company Railroad

Mainline operations for 1992 on the SPTC Railroad in the City of Merced consists of about 20 freight trains per day. Passenger trains presently do not operate on the SPTC tracks. Estimates of future operations were not available from the railroad. Maximum train speed is generally 65 miles per hour (MPH), and train movements may occur at any time during the day or night.

Using the Wyle Methodology for the previously described type and frequency of operations, noise exposure of 65 and 60 dB(A) LdN occur at approximately 335 and 630 feet, respectively, from the center of the tracks (*Table 10.1*). Noise levels are somewhat higher in the vicinity of at-grade crossings because of the use of the warning horn.

Atchison, Topeka, and Santa Fe (AT & SF) Railroad

Mainline operations for 1992 on the AT & SF Railroad in the City of Merced consist of an average of 22 freight and 6 passenger trains per day. Estimates of future operations were not available from the railroad, although Amtrak is proposing to add two more daily passenger trains along this line. Maximum speed is 70 MPH for freight trains, which may pass any time during the day or night. Passenger trains generally operate during daytime (7:00 a.m. to 8:15 p.m.) hours, and the maximum speed is 79 MPH. This type and frequency of operations will result in noise exposures of 65 and 60 dB(A) LdN at approximately 345 and 650 feet, respectively (see *Table 10.1*), from the center of the tracks (according to the Wyle Methodology). In the area surrounding at-grade crossings, noise levels are somewhat higher than this due to the use of the warning horn.

Data on future rail traffic was not available. However, according to the Wyle Methodology, a hypothetical 15 percent increase in operations would place the 65 and 60 dBA LdN contour lines at 360 and 675 feet for the Southern Pacific Railroad, and at 375 and 700 feet for the Santa Fe Railroad (see *Table 10.2*).

Table 10.1
Distance to Noise Contour Lines for Railroads

RAILROAD	Distance from Center of Tracks to Contour Line (in feet)	
	65 LdN	60 LdN
Southern Pacific Transportation Co. (SPTC)	335	630
Atchison, Topeka & Santa Fe (AT&SF)	345	650

Table 10.2

*Distance to Noise Contour Lines for Railroads
with a Hypothetical 15% Increase in Operations*

RAILROAD	Distance from Center of Tracks to Contour Line (in feet)	
	65 LdN	60 LdN
Southern Pacific Transportation Co. (SPTC)	360	675
Atchison, Topeka & Santa Fe (AT&SF)	375	700



10.3.3 Aircraft Noise

Since the closure of Castle Air Force Base and its conversion to civilian use, the City of Merced is impacted only by the aircraft noise from Merced Municipal Airport.

Merced County Airport Land Use Commission Policy Plan (ALUC)

The Merced County Airport Land Use Commission (ALUC), in an effort to assure continued compatibility of land uses in areas affected by airport activities, adopted a policy plan. For each public-use airport in Merced County, a land use plan and supporting policy guidance were defined. The ALUC Policy Plan also designates three safety zones within the referral area and their corresponding compatible land uses. The plan specifies areas of great concern, including height restrictions, safety, and noise. The main objective for airport noise policy, as stated in the Merced County ALUC Policy Plan, is to assure that new land uses in airport environs are

compatible with aircraft-generated noise. To this end, the Policy Plan establishes 65 dB CNEL as the criteria for residential uses and is based upon an assumed noise level reduction of 20 decibels (dB) for an average normal residence. Several amendments to the ALUC Policy Plan are recommended in the Merced Municipal Airport Master Plan (December 1990). These recommendations are included as part of the Goals, Policies, and Actions section of this Noise Element as well as in the Safety Element (1995).

Measuring Aircraft Noise

The noise standards established in the California Administrative Code, Title 21, Subchapter 6, designate Community Noise Equivalency Level (CNEL) as the noise rating method to be used at California airports. The noise descriptor used by the Air Force to measure existing and projected noise levels when Castle was an active military facility was the LdN method.

LdN is similar to the CNEL method; the two descriptors are generally within one dB of one another, and both can be used for noise contours for local compliance with the State Noise Installation

Standards. These standards require specified levels of outdoor to indoor noise reduction for new multi-family residential construction in areas where outdoor noise exposure exceeds CNEL (or LdN) 60 dB.

Castle Airport Aviation and Development Center

The highest noise levels in Merced were associated with military aircraft from the former Castle Air Force Base, located approximately four miles northwest of the City limits. Military operations at Castle ceased in 1995.

The Draft Castle Air Force Base Reuse Plan (1996), a development plan for civilian reuse of the site, addressed conversion through a number of possible land use alternatives. The option with the potential for creating the most intense non-military noise contours involves aircraft maintenance/training with mixed land uses.

The federal map illustrating this possible "worst case" alternative (projecting 60 CNEL Noise Contours for the year 2015) shows these noise contours ending approximately at Highway 59. As shown these contours do not encompass any existing or proposed City residential areas.

The projected Castle 65 CNEL Contour lines on the federal map terminate more than a mile west of Highway 59, north of Santa Fe Drive. The almost equivalent 65 decibel (dB) level is the federal limit (established by HUD) for site acceptability without any required decibel reduction.

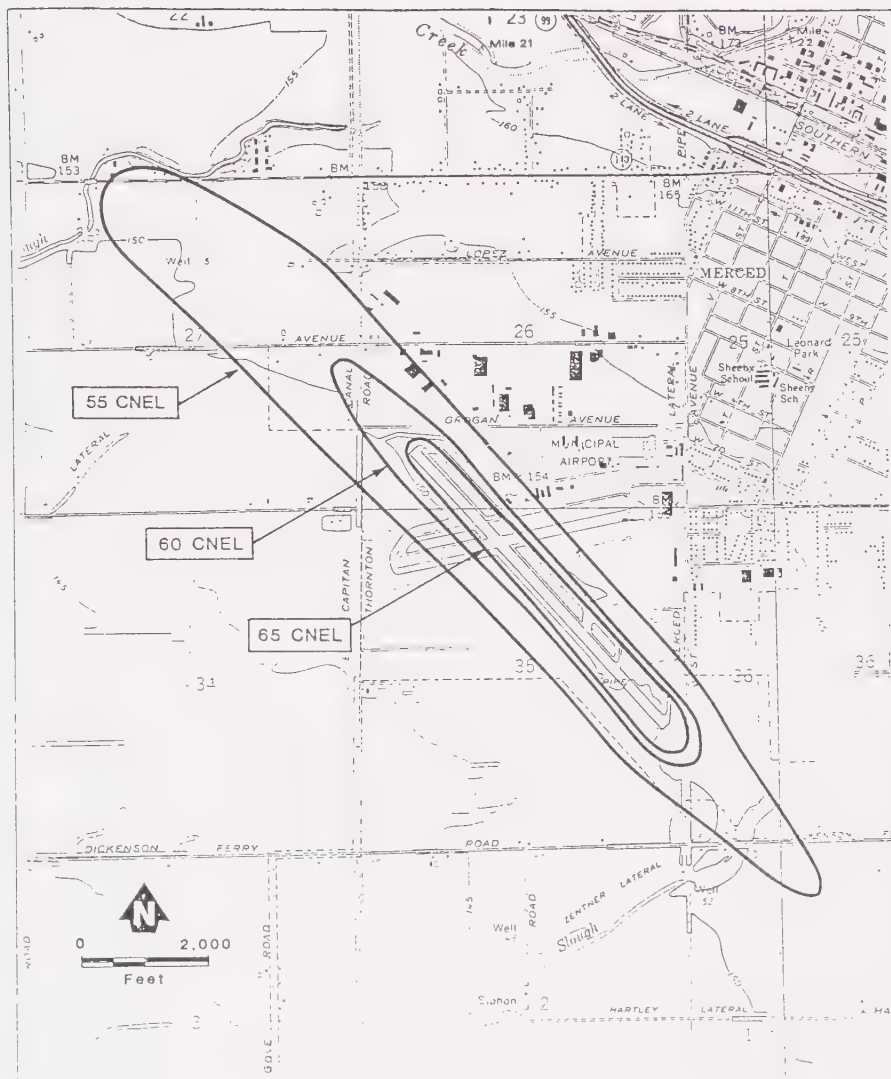
HUD-Merced Noise Agreement

The U.S. Department of Housing and Urban Development (HUD) has developed land use policies for application in noise-impacted areas. In 1984, a HUD-Merced noise agreement was executed for areas impacted at that time by noise from Castle military aircraft.

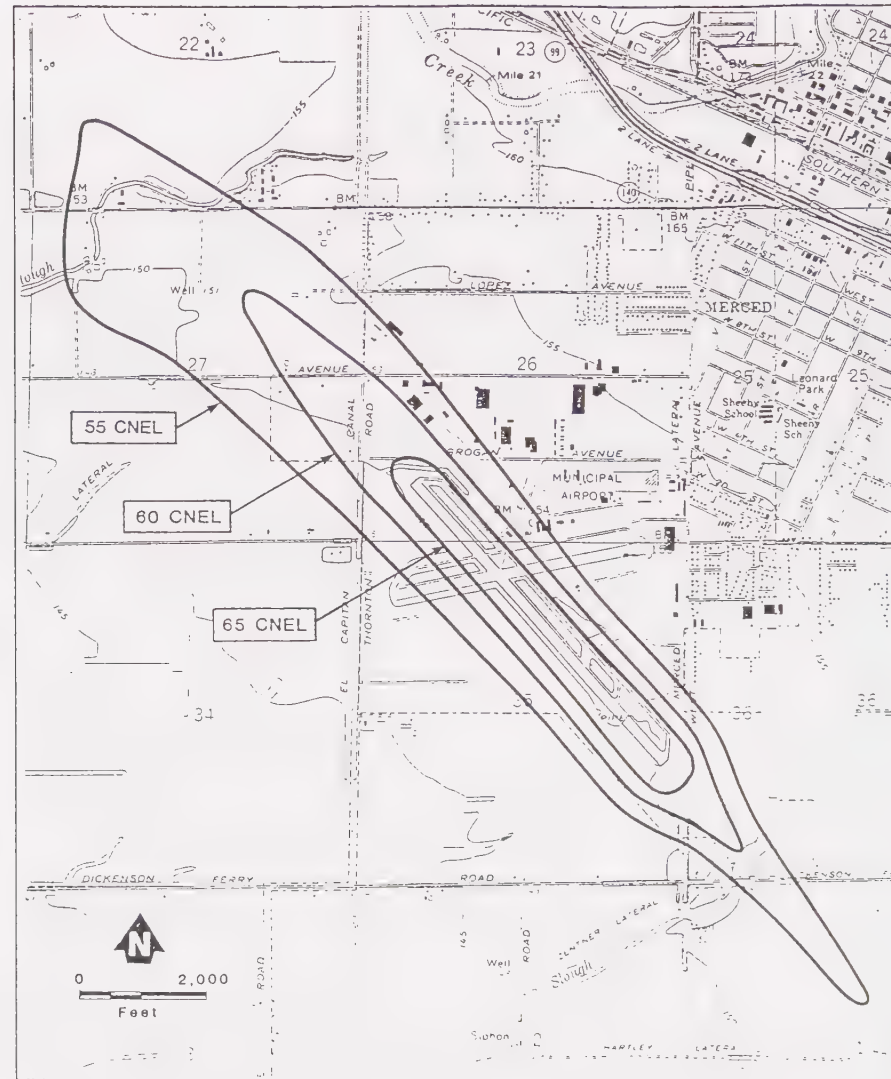
All development in areas where the outdoor noise level exceeded 65 LdN must either comply with the attenuation measures recommended by HUD's report or submit independent attenuation standards, reviewable by HUD that reduce interior noise to 45 LdN or below. The City is working to revise that agreement to reflect current conditions.

Merced Municipal Airport Noise Contours

Merced Municipal Airport (MMA) is located on the southwest section of the City. As of 1990, the number of based aircraft was 94. Annual operations is estimated to be 55,000, while the runway capacity is calculated to be approximately 135,000 operations. By the year 2010, an approximate 85,000 operations are forecasted with an increase to approximately 150 aircraft. The referral area adopted for Merced Municipal Airport extends 10,000 feet beyond where the runway ends. This referral area encompasses portions of the City of Merced to the east, and agricultural areas (within the County of Merced) to the west. *Figure 10.4* shows the Merced Municipal Airport's referral area and safety zones.



1990 Noise Contours



2010 Noise Contours

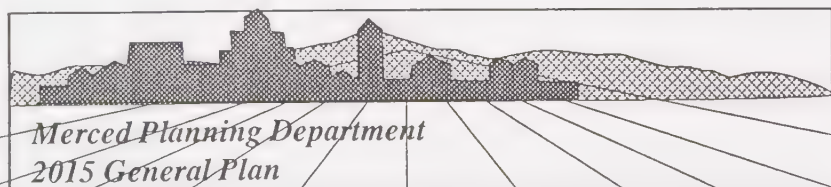


Figure 10.3
Merced Municipal Airport Noise Contours
(1990 and 2010)

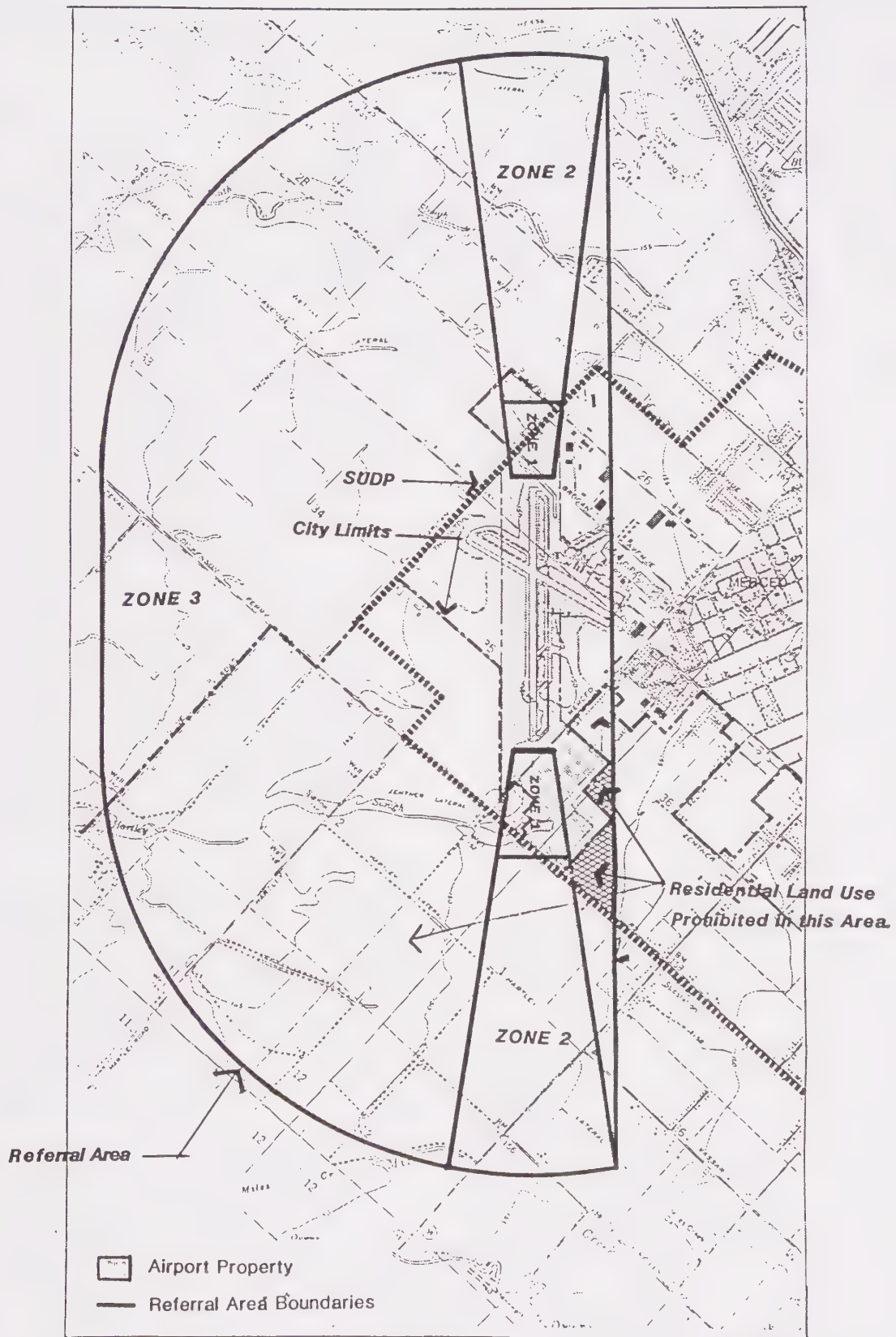
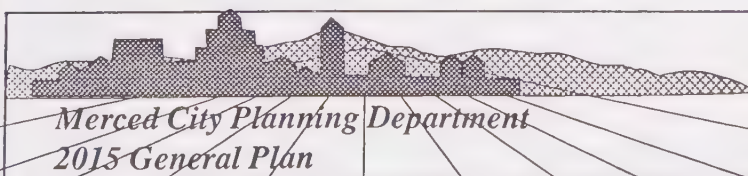


Figure 10.4

Merced Municipal Airport Safety Zones



The noise model input data used to calculate the noise contours for Merced Municipal Airport are provided in Section 10.4.5 (*Table 10.9*). *Figure 10.3* shows existing noise contours around the Merced Municipal Airport. *Figure 10.3* also contains projected noise contours (2010) for the airport, which are anticipated to affect only the immediate surrounding area, mainly agricultural and industrial activities.

10.3.4 Other Sources of Noise

Additional sources of noise include home appliances, tools, construction equipment, and others. The discussion on home appliances is limited since the City is not able to control noise input in the home. They are mentioned in order to give a better understanding of the nature of noise.

Construction equipment is better controlled although its transient nature makes it appear to be less severe and intrusive. Because construction noises are temporary, there has not been a concerted effort to reduce noise levels of the equipment involved. As the City expands and as the older areas are renewed and rehabilitated, the noise from construction will become more noticeable.

10.3.5 Noise Sensitive Land Uses

Existing land uses located within the City of Merced that are sensitive to intrusive noise include hospitals, convalescent facilities, parks, residential areas, schools, and libraries. *Figure 10.5* shows the locations and LdN values at some of these sensitive land uses within the City of Merced. Some variability in

standards for noise sensitivity may apply to different densities of residential development, and single-family uses are frequently considered the most sensitive. There is a range of land uses that are relatively insensitive to noise, such as commercial, retail, industrial, salvage yards, transit terminals, and others.

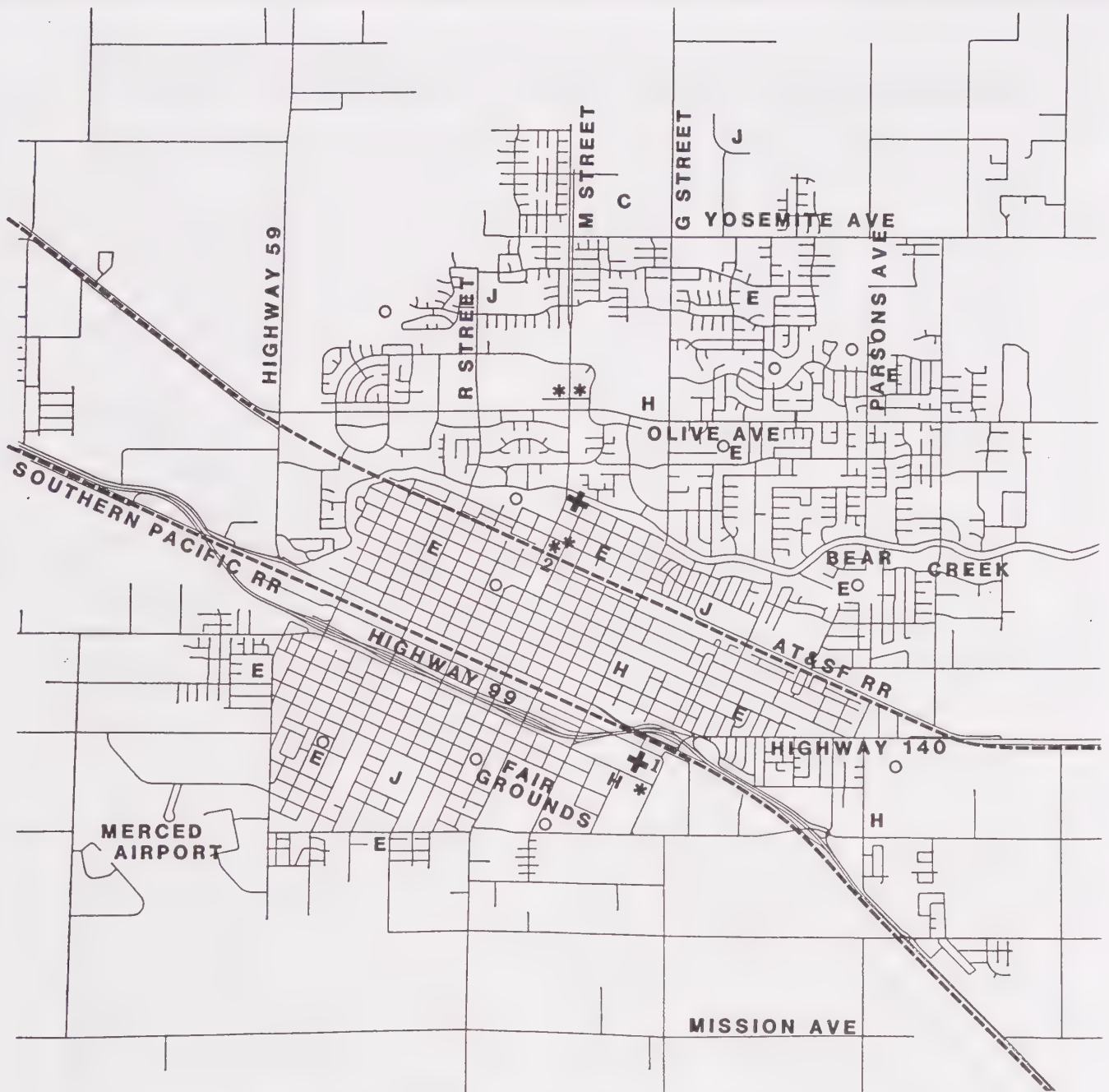
Residential areas in Merced are located along almost every major arterial, and therefore experience significant motor vehicle generated noise levels. Many of the newer residential subdivisions provide adequate sound barriers and may not be impacted by arterial noise. If a residence has direct vehicular access from the roadway, or if the housing tract was not built with protective noise barriers, the noise exposure in these areas would be considered excessive.

Guidelines for Land Use Compatibility

The State Office of Noise Control has developed a noise/land use compatibility matrix for noise standards for different land use categories. Depending on the environment of a particular community, these basic guidelines may be tailored to reflect the existing noise and land use characteristics of that particular community.

As stated earlier, the City of Merced uses guidelines for noise levels that are consistent with the HUD-Merced noise agreement. Areas with less than 65 LdN noise levels are classified as clearly acceptable, whereas in 65 or higher noise levels different dB reductions are required.

The following considerations, along with the guidelines for land use compatibility



LAND USE	Ldn	SOURCE
1 Merced Community Medical Center	65	Hwy 99
2 La Sierra Convalescent Hospital	65	AT&SF RR

Schools

E = Elementary
J = Junior High School
H = High School
C = College

+ Hospitals

* Convalescent Hospitals
O Parks

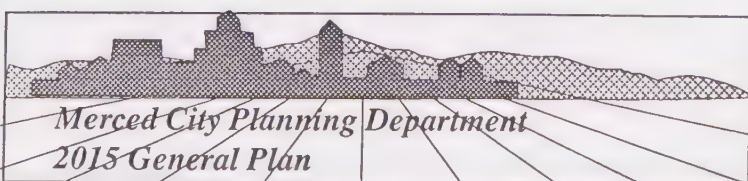


Figure 10.5

Noise Sensitive Land Uses

shown in *Figure 10.6*, should be taken into account when evaluating proposed development:

- 1) A maximum outdoor noise level of 60 LdN in residential areas where outdoor use is a major consideration, and whenever the realm of economic or aesthetic consideration makes it possible; a maximum of 65 LdN in any other case.
- 2) The indoor noise level as required by the State of California Noise Insulation Standards must not exceed 45 LdN in multi-family dwellings. This maximum should also be used for single-family homes.
- 3) If the noise source is a railroad, then 70 LdN as the maximum outdoor noise level should be considered as long as a maximum of 45 dBA indoor level in bedrooms is maintained. This is because train noise is usually characterized by relatively few loud events during which the noise levels will be acceptable for speech communication; the 45 dBA indoor level requirement should be implemented especially if there are trains passing by between 10:00 p.m. and 7:00 a.m., however.

Truck Routes

Truck routes have been identified within the City to direct large trucks onto roadways designed for that purpose. Truck routes direct trucks through the City to a designation outside Merced. Delivery trucks, which need to reach specific destinations within the City, are not restricted to these roadways.

Traffic noise generation is highly sensitive to the number of trucks as a

percentage of the total vehicles using the roadway on a daily basis. By designating truck routes where it will be less disruptive for sensitive land uses, the City is avoiding noise conflicts with adjacent land uses. *Figure 10.7* shows the City of Merced's truck routes which are basically along busy streets of mainly commercial areas or along streets with little development. Proposed land uses next to these designated truck routes where development has not yet occurred will need to be compatible with the noise generated along these streets.



10.3.6 Issues for Future Study

The Noise Element went through a substantial update in 1993. The subsequent closure of Castle Air Force Base (1995) and its conversion to civilian use eliminated the City of Merced's most significant noise source.

This noise chapter has subsequently been modified to a limited degree, to reflect the Castle closure. This allowed the noise chapter to be coordinated with the *Merced Vision 2015 General Plan* (1996).

However, new and expanded traffic information was generated for the Transportation and Circulation chapter, as well as other areas, of the updated plan. Once the Merced 2015 plan has been adopted, it will be important for the City to update the projected noise contours to reflect this new information.

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE Ldn or CNEL, db					
	55	60	65	70	75	80
RESIDENTIAL						
TRANSIENT LODGING - MOTEL, HOTELS						
SCHOOLS, LIBRARIES, CHURCHES, HOSPITALS, NURSING HOMES						
AUDITORIUMS, CONCERT HALLS, AMPHITHEATERS						
SPORTS ARENA, OUTDOOR SPECTATOR SPORTS						
PLAYGROUNDS, NEIGHBORHOOD PARKS						
GOLF COURSES, RIDING STABLES, WATER REC., CEMETERIES						
OFFICE, BUSINESS, COMMERCIAL & PROFESSIONAL						
INDUSTRIAL, MANUFACT., UTILITIES, AGRICULTURE						



Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.



Conditionally Acceptable
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.



Normally Unacceptable
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.



Clearly Unacceptable
New construction or development should generally not be undertaken.

SOURCE: ADAPTED FROM THE STATE OF CALIFORNIA GENERAL PLAN GUIDELINES, 1990. OFFICE OF PLANNING AND RESEARCH. SUGGESTED CNEL/LDN METRICS FOR EVALUATING LAND USE NOISE COMPATIBILITY.

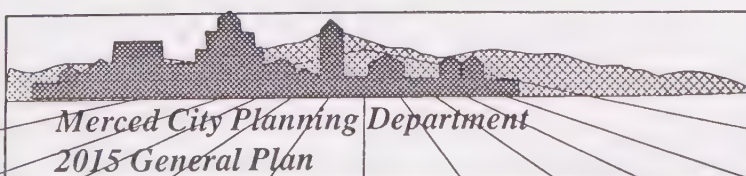


Figure 10.6

Noise Compatibility Guidelines

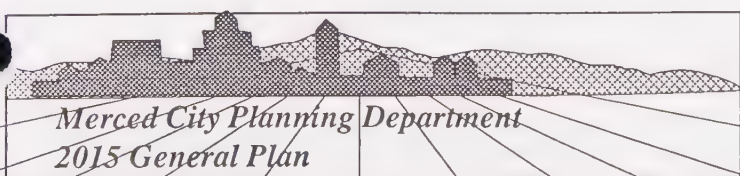
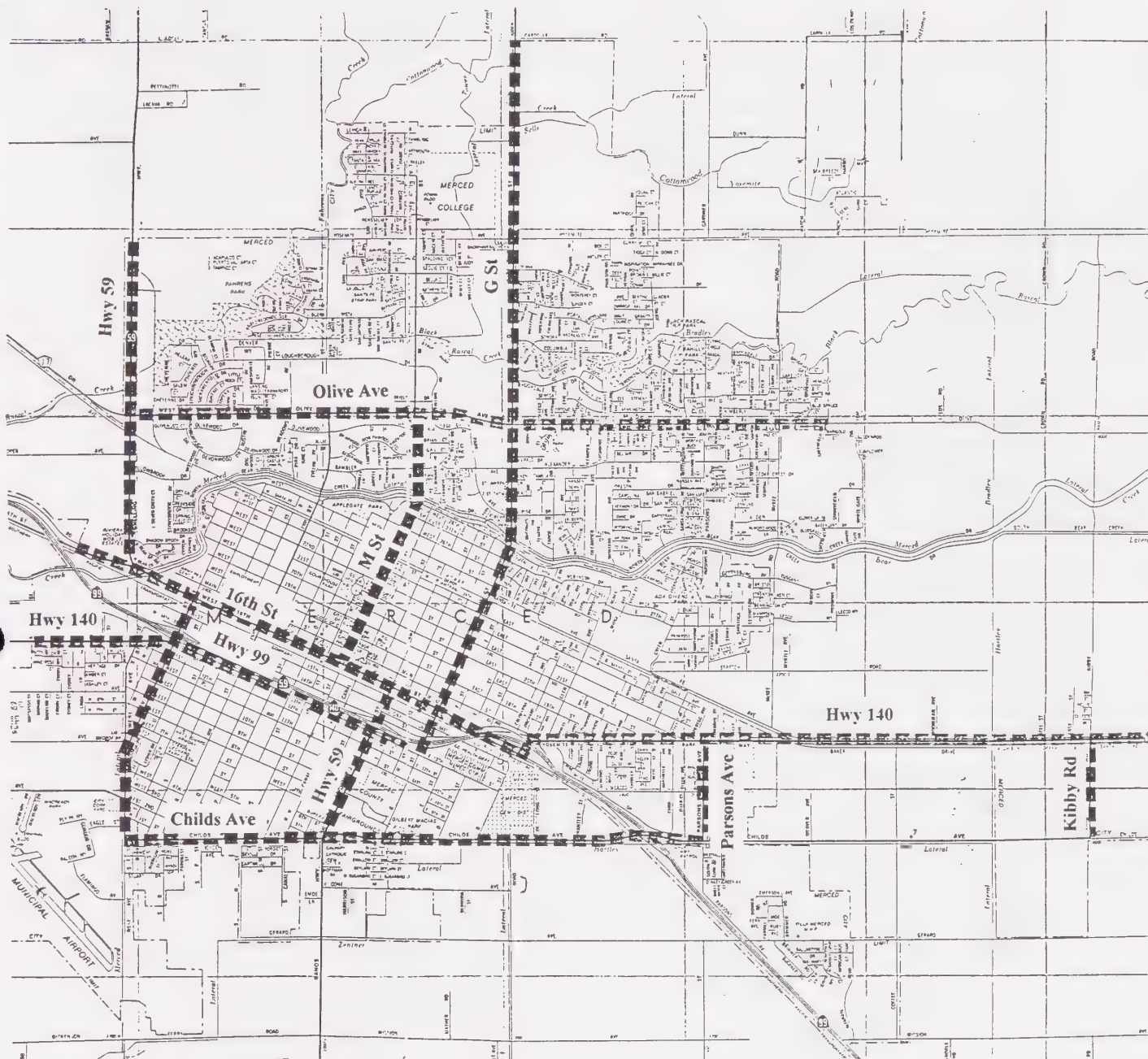


Figure 10.7

Truck Routes

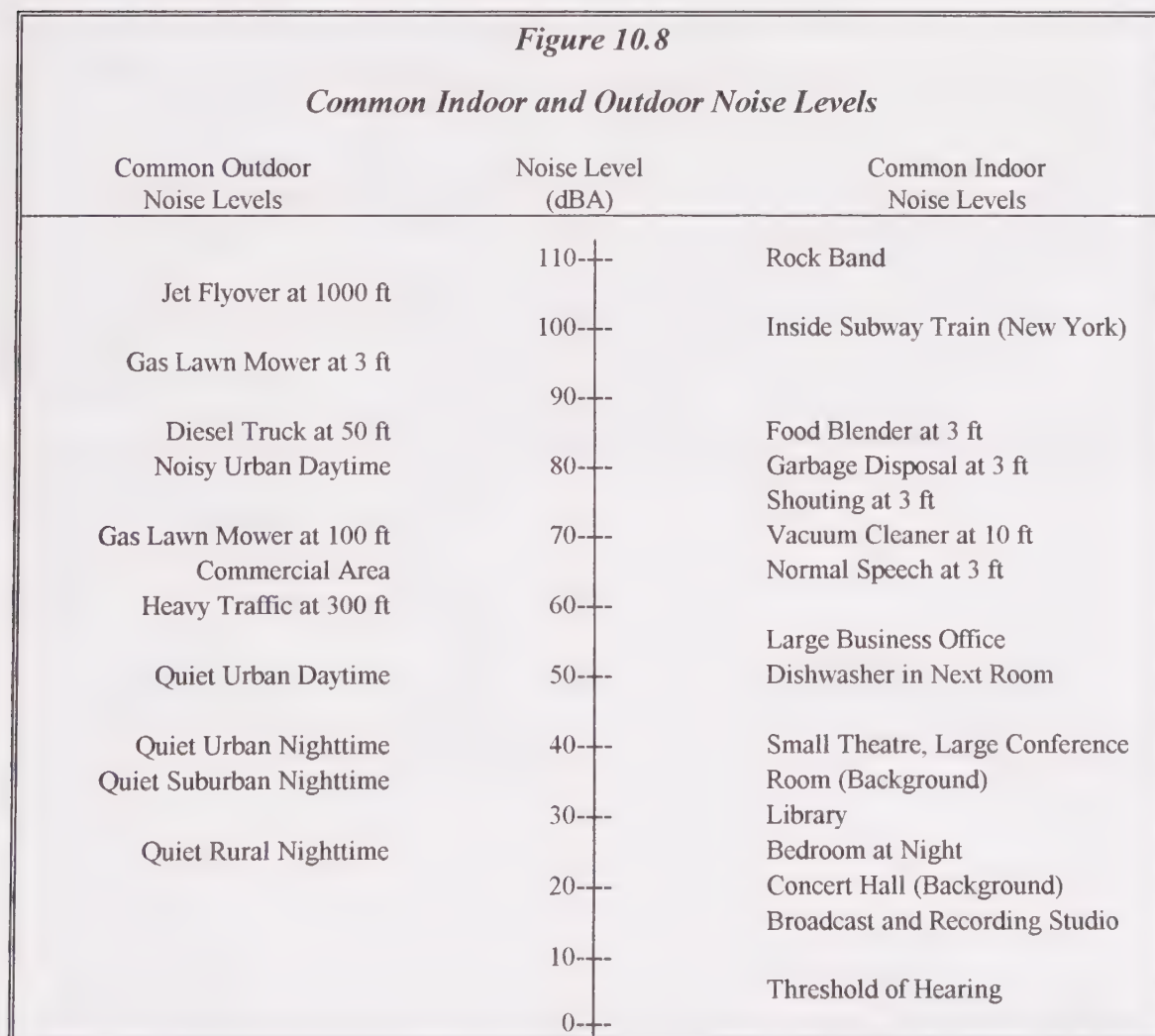
10.4 TECHNICAL DATA

10.4.1 Basic Characteristics of Noise

Noise is sound that the individual considers unwanted, uncomfortable, or aesthetically displeasing. Because noise is a subjective determination, it is possible for one person to consider a sound to be noise and another person to consider the same sound pleasing.

The degree of disturbance from noise depends upon three factors: (1) the amount (amplitude) and nature (frequency) of the intruding noise; (2) the amount of background noise present

before the intruding noise; and (3) the nature of the working or living activity of the people occupying the area where the noise is heard. A smooth, continuous flow of noise is more comfortable or acceptable than impulsive or intermittent noise, even though all of these noises might be judged as unwanted. Noises that are more identifiable tend to be more annoying. Other terms defined below are additional characteristics of sound that help determine whether the sound will be considered pleasing or displeasing. *Figure 10.8* illustrates the noise levels of various noise sources.



Sound:

Sound is a mechanical form of radiant energy which is transmitted in waves through the air (or other medium) and received as vibrations on the ear drum. Sound waves are measured in terms of frequency or number of cycles per second, and in terms of amplitude or decibels.

Frequency (Cycles per Second)

Frequency or pitch is influential in determining the pleasantness of a sound. The human ear can perceive frequencies as low as 15 cycles per second (or Hertz, abbreviated Hz) which would be a very low rumble, and as high as 20,000 cycles per second, a very high screech. The piano ranges from a low of 28 Hz to a high of 4,186 Hz. High frequencies are more irritating to the human ear and can make a low volume noise seem noisier.

Amplitude

Decibels, the unit of measurement for amplitude, make up a logarithmic scale. Instead of increasing arithmetically, as in cycles per second, decibels increase exponentially as is characteristic with the Richter Scale used in measuring the force of an earthquake. There are several adaptations of the decibel unit of measurement that take into account the way humans react to sound. These adaptations are listed below.

Decibel (A Scale)-dB(a)

The decibel is the unit used for describing the amplitude of sound. The decibel scale is relative to the human ear, with 0 decibels being the threshold of hearing. Because the human ear's perception of sound varies with the frequency, a modified decibel scale (A

Scale) has been developed which incorporates the human's greater sensitivity to high frequency sound and lower sensitivity to low frequency sound.

L10

In measuring a sound that is recurring but not maintaining a constant level, it is necessary to get a sound reading that takes into account the inconsistency of sound. L10 measurements indicate a sound level that is being exceeded 10 percent of the time.

Day-Night Average Sound Levels (LdN)

This method of measuring sound levels incorporates the noise from the individual events and weights them according to time of day of the event. The 24-hour day is divided into two time periods: (1) Day, 7:00 a.m. to 10:00 p.m.; and, (2) Night, 10:00 p.m. to 7:00 a.m. In order to more accurately reflect the annoyance level of day and night-time events, they are weighted by a multiplier of one (1) for day and ten (10) for night. Unlike the L10 method, LdN does not measure the actual noise of, for example, passing trains, but rather the average noise over a period of 24 hours. LdN or CNEL are the two descriptors to be used in Noise Elements for local compliance with the State Noise Insulation Standards.

CNEL

Community Noise Equivalent Level (CNEL) is similar to LdN, but with an additional adjustment for the evening hours to account for conversation, relaxation, TV viewing, etc. Along with the 10 dBA penalty for the 10:00 p.m. to 7:00 a.m. hours, 5 dBA is added to the 6:00 p.m. to 10:00 p.m. hours.

Decibel Addition

Decibels progress at a logarithmic rate. As a result, when two sounds of 90 dB(A) are produced together, the combined dB(A) reading will be 93 dB(A) and not 180 dB(A). The following chart can be used to determine the sound level of the combined sounds:

<i>When two decibel values differ by:</i>	<i>Add the following amount to the higher figure:</i>
0 - 1 dB	3 dB
2 - 3 dB	2 dB
4 - 9 dB	1 dB
10 or more dB	0 dB

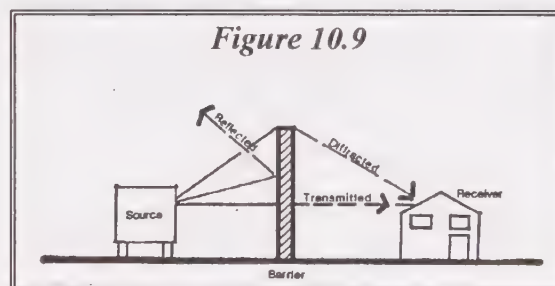
The human ear, however, perceives a doubling (or halving) of loudness for every change of 10 dB(A).

Attenuation

Sound from a localized source spreads out uniformly and the rate of attenuation (sound reduction) is about 6 dB for every doubling of distance, varying somewhat according to humidity, temperature, and other climatic conditions. Therefore, if a sound is 60 dB at 50 feet, it will read 54 dB at 100 feet. At very long distances (greater than a few hundred feet), and especially in a hot, dry climate, the air absorbs a certain amount of high frequency energy and the sound level drops off at a slightly higher rate. For a line source like nonstop automobile traffic, the rate of sound attenuation is 3 dB for each doubling of distance. Because traffic is seldom sufficiently constant to use the line source rate of attenuation, the National Cooperative Highway Research Program has adopted a 4.5 drop-off rate for highway traffic.

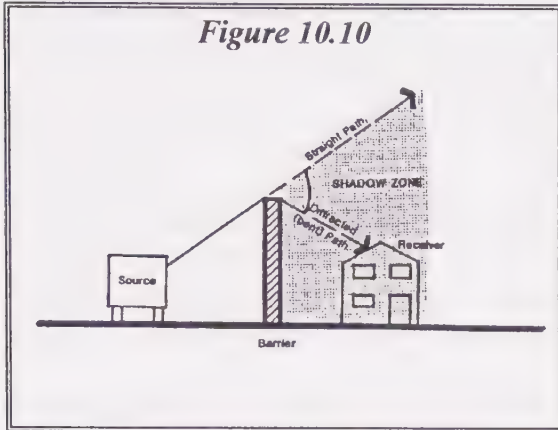
Barrier/Noise Reduction Concepts for Noise Attenuation

In general, three basic techniques provide noise attenuation: (1) the use of barriers or berms; (2) site design; and, (3) acoustical construction. Acoustical construction is recommended when barriers or site design cannot provide all the attenuation necessary. Basically, acoustical construction reduces the interior noise level of a building, but would not reduce exterior noise levels. In some cases, a quiet exterior environment is as important as the interior environment; therefore, special attention should be given to the type of project that is being reviewed to determine the type(s) of attenuation needed.



Several barrier noise reduction concepts shown graphically in **Figures 10.9** and **10.10** of this appendix are explained in the next pages. *Diffracted path*, *transmitted path*, and *reflected path* are the redistribution of the sound energy when a barrier is introduced between the source of the noise and the receiver. If no barrier exists between the noise source and adjoining areas, the sound will travel in a direct path from the source, diminishing only with distance. But, if a barrier is introduced, some attenuation is possible at shorter distances.

Figure 10.10

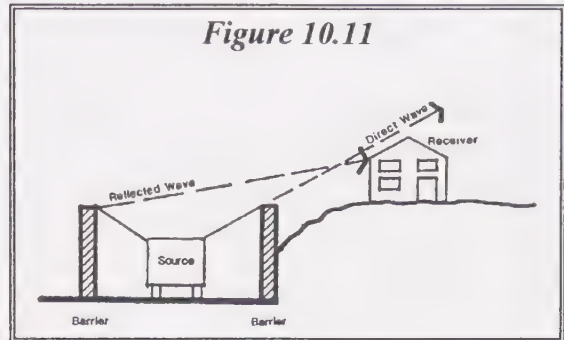


The amount of sound that “passes through” a barrier (barrier transmission) depends upon the barrier material weight and stiffness, and the holes or openings in the barrier. In the case of the latter, any openings or holes may seriously degrade the noise reduction since the sound pressure increases upon striking the barrier wall, and this results in an amplification of the transmitted sound. Materials that provide a good sound absorption are concrete, masonry, brick, and granite, among others.

As shown in *Figure 10.9*, sound energy is also reflected by a barrier wall. When there is only one wall used as a sound barrier for a specific receiver, the reflected energy would not affect the receiver and the purpose of attenuating noise is accomplished, even though some noise will be diffracted or transmitted and might reach the receiver. But, when a double noise barrier is involved, additional sound energy can reach the receiver by a reflection from the opposite wall as illustrated in *Figure 10.11*. If the walls are made of materials which have a good sound absorption rate, the contribution of each reflection will be decreased by the amount that depends upon the absorptive characteristics of the

barrier. So, this in turn will usually recover all of the lost noise reduction.

Figure 10.11



Barrier diffraction (and attenuation) is the amount of sound waves that can reach a receiver by bending over the top of the barrier. Once the sound is diffracted behind a barrier, it creates a “shadow zone”(Figure 10.10). Any receiver located in this area or zone will experience some sound attenuation; the amount of attenuation will depend on the magnitude of the diffraction angle. As the angle increases, the barrier attenuation also increases (see *Figures 10.11 and 10.12*). The diffraction angle will increase if the barrier height increases, or if the source or the receiver is placed closer to the barrier. *Figure 10.13* illustrates the effect of moving the barrier closer to the source of noise.

Figure 10.12



Figure 10.13



Noise Levels Combination

With a typical sound barrier, the noise levels are reduced by the sound waves being diffracted over the barrier and by the sound waves passing through the barrier. The noise level at the receiver will be the combination of the attenuated levels resulting from each attenuation step. For example, if the starting noise level is 70 dB and the noise level is reduced 10 dB when the sound passes through the wall, then the attenuated level reaching the receiver is 60 dB. On the other hand, if the attenuation provided by the sound waves being diffracted over the barrier is also 10 dB, the attenuated noise reaching the receiver will be 60 dB as well. However, as explained previously, when the two attenuated levels are combined, the final level becomes 63 dB and not 60 dB. Thus, even though the attenuation value of each step was 10 dB, the combined reduction is only 7 dB. Noise levels combine in such a way that only when the difference between levels is less than 10 dB does it affect the combined noise level.

Site planning can also be used as a tool for noise reduction. Many site planning techniques can be employed to protect sensitive uses from excessive noise. These are among others: (1) increasing the distance between the noise source and the receiver; (2) placing noise compatible land uses (parking, utility rooms, maintenance buildings, etc.) between the source and the receiver; (3) locating the barrier-type facility or building parallel to the noise source; and, (4) orienting the noise-sensitive use away from the source of noise. All these techniques can be used to attenuate the actual noise reaching a noise-sensitive

land use, without adding an excessive burden or cost to a specific proposal.

10.4.2 Psychological and Physiological Effects of Noise

The psychological and physiological effects of noise have been studied, but not to such an extent that conclusions can be drawn with any degree of finality. Further research may determine that existing noise levels are, and have been, having a severe impact on health, or it may find that human beings can tolerate much higher everyday noise levels without ill effects. The following discussion describes three areas where concern has encouraged research. While the results of this research are not conclusive, the potential damage should be sufficient to warrant concern. "There is no definitive evidence that noise can induce either neurotic or psychotic illness. There is evidence that the rate of admissions to mental hospitals is higher from areas experiencing high levels of noise from aircraft operations than in similar areas with lower levels of noise."¹

Hearing Ability

"Clear evidence is available that noise with A-weighted sound levels above 80 decibels can contribute to inner ear damage and eventual hearing handicap if such noises are frequently and regularly encountered"² A slight hearing loss at an early age may be considered insignificant. However, when combined with the natural decrease in hearing ability due to old age, the total hearing loss may become significant. The exposure to a combination of noise sources may be damaging even though exposure to the same sources individually is not. For this reason, any significant

noise sources should be included in the study of the overall community noise exposure level.

Sleep

Men and women vary in sensitivity to noise during sleep. Research points out that sleep disturbance from subsonic-aircraft noise or sonic booms is greater for middle-aged women than for middle-aged men. Thus, it appears that women's sleep is more easily disturbed by noise than is men's, even when other variables such as motivation and stage of sleep are equated. In other research, it was found that people over 60 years of age are more sensitive to noise while sleeping and, if awakened, find it more difficult to fall back to sleep compared to people in other age groups.

The highest degree of adaptation to noise will probably be apparent in not awakening or awakening for shorter periods. It will be less likely that the individual will adapt to an extent that upwards shifts from deep to light sleep are experienced, and it is improbable that there will be complete adaptation as shown in responses to the electroencephalogram (EKG-method of measuring heart rhythms) and in changes in heart rate and blood flow. In other words, while the individual may think he is completely adapting to the high noise level, he is probably only adapting partially; instead of awakening, he is moving into a lighter stage of sleep, or instead of moving into a lighter stage of sleep, he is registering changes in blood flow and heart rate and rhythm.

10.4.3 Social and Economic Effects of Noise

Social Effects

High noise levels can disrupt normal communications and cause people to change their behavior so that the noise is lessened or avoided. To some people, these changes merely indicate an adaptation to the stimulus and are unlikely to do any great harm; others find the disruption and adaptation behavior to be equally damaging in that they both discourage spontaneity. The following comments review the types of effects noise can have on communication and behavior patterns of people.

Communication

Distances between people while talking varies with the situation. In one-to-one personal conversations, the distance is usually around five feet with noise level as high as 66 dB(A). In group situations, the distance maintained is somewhere between five and twelve feet with background noise levels of no more than 50 to 60 dB(A). For outdoor gatherings where distances range from 12 to 30 feet, any noise level higher than 45 to 55 dB(A) will hinder communications.

Behavior Patterns

Not being able to communicate spontaneously or without difficulty will affect the behavior patterns of people. In one area that was subjected to high noise levels from aircraft, the impact on the community was evident in the schools. The NEF 30 or greater noise level meant that the teaching was interrupted for a total of an hour each day and a "jet pause" teaching style had to be adopted to accommodate the noise.

¹ U. S. Environmental Protection Agency, *Effects of Noise on People*, (Prepared by Central Institute for the Deaf), December 31, 1971, p. 123.

² Ibid., p. 39.

“The noise interference goes beyond the periods of enforced non-communication, for it destroys the spontaneity of the educational process and subjects it to the rhythm of the aeronautical control system.”³

Even when people claim they are “used to” the high noise levels, there is evidence that they have changed their behavior to suit the interference; that is, they adopt a “non-communicating lifestyle” using less verbal communication and more non-verbal techniques: gestures, posture, and facial expressions. Among adults, free and easy speech communication is probably essential for full development of social relations and self.

Economic Effects

The economic effects of noise range from the involuntary costs associated with lowered property values and decreased worker output, to the voluntary costs of mitigating the noise problem. In many cases, the economic benefits of a project are used as the sole determinants and little attention is given to the effects on the individual’s psychological, physiological, social, and economic well-being.

Property Values

Property values can be negatively affected by noise. In San Francisco, it was found that the noise variable was a statistically significant determinant of property values in a majority of cases cited. In other studies, the relationship between noise and property values was confused by the rapid turnover (and, therefore, more frequent tax assessments) of housing in high noise areas. The property values in high noise

areas appeared not to have been affected by the noise since the higher number of reassessments had brought the value of the house up at a more rapid rate.

Job Production

High noise levels may affect worker output and worker safety. “A tired and nervous person is obviously not as attentive or able to concentrate on the tasks that he is performing as a rested and relaxed person; i.e., noise can contribute to making a person more prone to accidents in both the home and the work environment.”⁴

Mitigation Costs

Mitigating measures can be implemented at the noise source or at the point of reception. The amount of exposure to noise is most efficiently regulated at the same source since the individual is free to participate in activities at innumerable locations that can expose him to high noise levels. However, costs of insulating houses, constructing barriers, and obtaining easements should also be considered as long as the City does not have jurisdiction over most of the sources of noise. Examples on noise abatement techniques are included in Sections 10.1 and 10.2 of this Noise Element.

Products have been developed that reduce the noise generated by such things as garbage trucks, waste disposal units, truck exhaust, and garbage cans. The adoption of these products will probably take legislation since invariably the newer, more silent product is also more costly to produce. “With the rapid growth in noise sources within the home...and with the growth in noise-density, due to increased population

concentration, these annoyance effects and the associated economic costs are likely to increase dramatically in the near future.”⁵

³ Jamaica Bay Environmental Study Group, National Academy of Science, as quoted *Ibid.*, p. 56.

⁴ “The Auditory Environment in the Home,” a study by the Department of Environmental Design, University of Wisconsin, from *The Washington Post* (September 11, 1971), as quoted in U.S. Environmental Protection Agency, *The Economic Impact of Noise* (Prepared by National Bureau of Standards), December 1971, p. 53.

⁵ U. S. Environmental Protection Agency, *Economic Impacts of Noise*, (Prepared by National Bureau of Standards), December 31, 1971, p. 58.

10.4.4 Noise Pollution Standards

As noise levels have risen, Federal, State, and local governments have become more concerned and more willing to consider methods for reducing exposure to noise. These methods include setting limits on the noise levels that can be produced by a piece of equipment and limiting the noise that can be experienced by a particular land use.

Related Federal Standards

The U. S. Department of Housing and Urban Development sets criteria and standards for noise acceptability for its Housing programs. These programs set 65 dB outdoor noise level as the limit for site acceptability without any required dB reduction. HUD’s noise policy (54 CFR 51 B) clearly requires that noise attenuation measures be provided when proposed projects are to be located in high-noise areas. A goal of 45 dB maximum is set forth for interior noise level, and the attenuation requirements are geared towards achieving that goal.

Related State Regulations

California Administrative Code, Title 21, Subchapter 6, establishes noise criteria for civilian airports in California, whereas the 65 dB(A) CNEL contour is established as the boundary for requiring residential development to provide adequate mitigation. Measures for mitigation are specified to attain land use compatibility with respect to aircraft/airport noise.

Title 24 of the California Administrative Code regulates interior noise levels within multiple-occupied dwellings affected by noise from traffic, aircraft operations, railroads, and industrial facilities. The California Vehicle Code sets noise emission standards for new vehicles, including autos, trucks, motorcycles, and off-road vehicles. Section 216 of the Streets and Highways Code regulates traffic noise as received at schools near freeways. The California Environmental Quality Act (CEQA) includes noise as one of the factors in determining environmental impacts.

Local Standards

The City of Merced Municipal Code (MMC) section which pertains to noise is 8.08.090 (11), “Conditions Declared Nuisance.” The reference to noise problems is within the category of “any other condition or use of property” which is a public nuisance under law. Title 17 of the MMC also deals with noise as a result of the adoption of the Uniform Building Code. Indirectly, noise levels are being regulated by land use planning, as in the establishment of truck routes. When enforced, the regulations and standards contribute to a quieter environment. Section 10.2, “Noise Goals, Policies, and Actions,” of this

Noise Element is intended to guide continued and expanding efforts to reduce noise and noise impacts in Merced.

10.4.5 Noise Contour Line Computations

Noise Contours for Highways and Freeways

Existing noise contours distances for highways and freeways were developed by the State of California Department of Transportation (Caltrans) District 10. The descriptor used for the existing contour distances was L10. In a Caltrans letter dated March 5, 1992, it was explained that Leq's (another descriptor used for noise contour data) are 3 dBA lower than L10's. Therefore,

three (3) dBA's were subtracted from the actual L10 figures. This was done by the Planning staff in order to facilitate descriptor conversion to LdN, which is the descriptor used for noise contour lines for noise elements.

Following directions for descriptor conversions from a noise manual entitled "Technical Analysis Notes" (Caltrans, Division of New Technology, Materials, and Research) dated March 1991 (second draft), the LdN values were found to be approximately equal to the Leq value. According to the previously-mentioned manual, as a rule of thumb LdN is within #2 dBA of leq (h) pk under normal traffic conditions.

Trip Generation and Noise Contour Line Forecasts for State Highways

The highway traffic volume forecast for the year 2010 was obtained from California Department of Transportation (Caltrans) District 10 through their Advanced Planning Department.

The calculation for projected noise contours was done by the City staff based on Caltrans methods as explained in the following steps:

- 1) In each case, the existing (1990) noise contour closest to the freeway is used. For example, 70 dBA @ 274 feet with existing ADT @ 32,500 and new (projected) ADT @ 73,000.
- 2) Then, level for new ADT is adjusted:

Existing (1990) ADT = 32,500

New (Projected) ADT = 73,000

70 dBA @ 274 feet

New projected Noise Level

$$\begin{array}{rcl} @ 274 \text{ ft} = & & \underline{73,000} \\ 70 \text{ dBA} + 10 \log_{10} & & 32,000 = \end{array}$$

$$70 + 3.5 = 73.5 \text{ dBA @ } 274 \text{ ft}$$

- 3) New noise level is used as a reference to calculate distances from centerline of the freeway to new noise contours:

- a. To 75 dBA Contour:

$$75 \text{ dBA} - 73.5 \text{ dBA} = 1.5 \text{ dBA}$$

$$\begin{array}{rclcl} 1.5 = 15 \log 274/D & 0.1 = \log 274/D & 0.1 \frac{274}{10} = D & \frac{274}{10} & D = 1.25 = 219' \text{ from CL} \\ & & & & \text{to 75 dBA Contour} \end{array}$$

- b. To 70 dBA Contour:

$$70 \text{ dBA} - 73.5 \text{ dBA} = 3.5 \text{ dBA}$$

$$\begin{array}{rclcl} -3.5 = 15 \log 274/D & 0.23 = \log 274/D & -0.23 \frac{274}{10} = D & \frac{274}{10} & D = 0.588 = 466' \text{ from CL} \\ & & & & \text{to 70 dBA Contour} \end{array}$$

- c. To 65 dBA Contour:

$$65 \text{ dBA} - 73.5 \text{ dBA} = -8.5 \text{ dBA}$$

$$\begin{array}{rclcl} -8.5 = 15 \log 274/D & 0.56 = \log 274/D & -0.56 \frac{274}{10} = D & \frac{274}{10} & D = 0.272 = 1,007' \text{ from CL} \\ & & & & \text{CL to 65 dBA Contour} \end{array}$$

Table 10.3
State Highways
Existing and Projected ADT'S Within the City Limits

	<u>Post Mile</u>	<u>Existing ADT 1990</u>	<u>Projected ADT 2010</u>
<u>Highway 99:</u>			
Mission Road	11.66	30,500	68,000
Gerard Avenue	12.37	32,500	73,000
Childs Avenue	13.09	32,500	73,000
J Rte. 140 E.	13.86	36,500	82,000
S. Jct. Rte 59	14.69	39,000	90,000
N. Jct. Rte 59	15.78	39,000	90,000
W. Merced OH	16.54	45,500	104,000
Buhach Road	20.52	42,500	92,000
<u>Highway 140:</u>			
Franklin Road	23.35	6,000	11,200
W. Jct. Rte. 99	35.78	8,600	16,000
E. Jct. Rte. 99	35.79	14,400	20,900
Union Street	36.09	12,000	17,400
Bradley OH	37.07	12,000	17,400
Santa Fe Drive	37.40	7,700	11,100
Arboleda Road	40.70	7,600	11,000
Plainsburg Road	43.70	3,800	5,700
<u>Highway 59:</u>			
Mission Avenue	13.13	6,800	12,600
Childs Avenue	14.13	6,900	15,700
S. Jct. Rte. 99	14.77	13,000	20,300
N. Jct. Rte 99	14.78	10,400	19,300
S. Jct. 16th St.	15.02	10,400	19,300
N. Jct. 16th St.	15.35	13,200	27,200
Santa Fe Drive	16.10	13,200	20,000
4.3 M. N/O Rte. 99	19.00	5,300	10,900

Source: Caltrans, District 10

Table 10.4

**Existing and Projected Noise Contour Data
For State Highways**

		Distance (Feet) from Center of Near Lane to LDN Contours (LdN CONTOUR dBA)		
Segment No.	Year	75	70	65
<u>Highway 99:</u>				
MAD-MER Co. Line to Childs Avenue	1990	149	274	511
	2010	219	466	1,007
Childs Avenue to Jct. Rte. 140 East	1990	149	272	504
	2010	218	462	1,000
Jct. Rte 140 E. to Jct. Rte 59 & 140	1990	155	285	532
	2010	231	491	1,058
N. Jct. Rte 59 & 140 to Merced OH	1990	146	268	494
	2010	252	462	996
<u>Highway 140:</u>				
Franklin Road to N. Jct. Rte 99	1990	28	55	105
	2010	40	81	186
S. Jct. Rte 99 to Santa Fe Drive	1990	45	97	190
	2010	64	138	297
Santa Fe Drive to Arboleda Drive	1990	35	78	158
	2010	51	108	235
<u>Highway 59:</u>				
2.8 mi. S of Merced to Childs Avenue	1990	45	91	176
	2010	70	149	325
Childs Avenue to S. Jct. Rte 99	1990	79	144	249
	2010	100	210	452
N. Jct. Rte 99 to S. Jct. 16th Street	1990	84	157	273
	2010	114	245	520
S. Jct. 16th Street to N. Jct. 16th Street	1990	99	167	270
	2010	121	264	552
N. Jct. 16th Street to Santa Fe Drive	1990	58	116	213
	2010	88	190	414
Santa Fe Drive to Oakdale Road	1990	36	71	139
	2010	48	103	220

Source: Caltrans District 10 and City of Merced Planning Department

Computations for Local Streets

Brown-Buntin Associates, Inc. performed calculations of traffic noise exposure for the selected streets within the City of Merced. Noise levels from traffic on these streets were evaluated for existing (1990) conditions.

The existing (1990) traffic noise levels were evaluated using the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA-RD-77-108) and traffic data obtained from the City of Merced.

The FHWA Model is the analytical method currently favored by most state and local agencies for traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles) and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA Model was developed to predict hourly Leq values for free-flowing traffic conditions and is generally considered to be accurate within +/- 1.5 dB. The model assumes a clear view of traffic with no shielding at the receiver location. To predict LdN values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The Calveno traffic noise emission curves have been used in this analysis to more accurately calculate noise levels generated by California traffic.

Traffic data used in the traffic noise exposure modeling process are summarized in **Table 10.5**. Using the

FHWA Model and the traffic data summarized in **Table 10.5**, the distances from the center of the roadway to 60, 65, and 70 dB LdN contours were calculated. Contour distances are summarized in **Table 10.6**. The roadway segments listed in this table correspond to those in **Table 10.5**.

Trip Generation and Noise Contour Line Forecasts for Local Streets

Merced County Association of Governments (MCAG) has prepared daily traffic forecasts for the year 2010 for Merced County using MICRO-COMPUTER INTEGRATED NETWORK for urban transportation planning (MINUTP) software. MINUTP is a gravity traffic model that projects traffic based upon assumptions about land uses and the transportation network.

The calculation of projected noise contour lines for selected local streets was also done by the firm of Brown-Buntin Associates (BBA). Future noise levels were calculated using the MCAG traffic forecasts. The method used to calculate the future traffic noise exposure is the same method used for existing conditions. See **Table 10.8** for projected LDN contour distances for local streets in 2010.

Noise contours for Parsons Avenue were taken from the Parson Avenue Corridor Project Draft Environmental Impact Report by Duncan and Jones, urban and environmental planning consultants. **Table 10.7** shows the existing and projected noise levels for Parsons Avenue. These noise levels were calculated at 50 feet from the centerline of the road.

Future noise levels along the Parsons Avenue Corridor have been calculated for years 2002 and 2010. Traffic projections were used to calculate the future noise levels. Future noise levels were calculated using the FHWA noise prediction model and calculations include

through truck traffic and average traffic speeds of 40 mph. Noise levels at adjacent land uses would be approximately one dB lower in the year 2002 than in the year 2010.

Table 10.5

FHWA Traffic Noise Model Input Data

FHWA Model RD-77-108: Brown-Buntin Associates, Inc.
Calveno Emission Curves Run Date: 07-06-1991
Project Number: 90-161 Run Time: 13:38:45
Year: 1991
Soft Site

INPUT DATA SUMMARY:

Segment	ADT	Day%	Eve%	Night%	%MT	%HT	Speed	Distance	Offset
1	6100	90.0	0.0	10.0	2.5	2.5	35.0	100.0	0.0
2	4900	89.0	0.0	11.0	2.5	2.5	55.0	100.0	0.0
3	4400	92.0	0.0	8.0	2.5	2.5	35.0	100.0	0.0
4	11400	92.0	0.0	8.0	2.5	2.5	35.0	100.0	0.0
5	16400	92.0	0.0	8.0	2.5	2.5	35.0	100.0	0.0
6	31200	92.0	0.0	8.0	2.5	2.5	45.0	100.0	0.0
7	22200	92.0	0.0	8.0	2.5	2.5	45.0	100.0	0.0
8	9300	92.0	0.0	8.0	2.5	2.5	45.0	100.0	0.0
9	4200	90.0	0.0	10.0	2.5	2.5	55.0	100.0	0.0
10	7900	95.0	0.0	5.0	1.0	1.0	30.0	100.0	0.0
11	11900	95.0	0.0	5.0	1.0	1.0	35.0	100.0	0.0
12	23400	94.0	0.0	6.0	1.0	1.0	40.0	100.0	0.0
13	21100	94.0	0.0	6.0	1.0	1.0	45.0	100.0	0.0
14	13200	94.0	0.0	6.0	1.0	1.0	45.0	100.0	0.0
15	8900	96.0	0.0	4.0	1.0	1.0	45.0	100.0	0.0
16	2500	93.0	0.0	7.0	1.0	1.0	40.0	100.0	0.0
17	2300	93.0	0.0	7.0	1.0	1.0	40.0	100.0	0.0
18	29300	90.0	0.0	10.0	2.5	2.5	45.0	100.0	0.0
19	27300	91.0	0.0	9.0	2.5	2.5	40.0	100.0	0.0
20	27000	92.0	0.0	8.0	2.5	2.5	40.0	100.0	0.0
21	11100	92.0	0.0	8.0	2.5	2.5	40.0	100.0	0.0
22	4900	92.0	0.0	8.0	2.5	2.5	40.0	100.0	0.0
23	2400	94.0	0.0	6.0	2.5	2.5	40.0	100.0	0.0
24	3800	91.0	0.0	9.0	1.0	1.0	35.0	100.0	0.0
25	17900	93.0	0.0	7.0	1.0	1.0	30.0	100.0	0.0
26	19600	93.0	0.0	7.0	1.0	1.0	40.0	100.0	0.0
27	11200	93.0	0.0	7.0	1.0	1.0	40.0	100.0	0.0
28	8700	94.0	0.0	6.0	1.0	1.0	45.0	100.0	0.0
29	5400	92.0	0.0	8.0	1.0	1.0	55.0	100.0	0.0

Table 10.6
Noise Contour Data For Local Streets (1990)

		Distance (Feet) from Center of Roadway to LDN Contours Existing (1990) Contours		
Segment No.	Description	60 dB	65dB	70dB
<u>Childs Avenue:</u>				
1	Martin Luther King Jr Way/J St to Hwy 99	77	36	17
2	Hwy 99 to Coffee Avenue	131	61	28
<u>“G” Street:</u>				
3	Childs Avenue to Hwy 99	58	27	13
4	Hwy 99 to 16th Street	109	51	24
5	16th Street to 27th Street	140	65	30
6	27th Street to Olive Avenue	302	140	65
7	Olive Avenue to Donna Drive	241	112	52
8	Donna Drive to Yosemite Ave	135	63	29
9	Yosemite Ave to Cardella Rd	114	53	25
<u>“M” Street:</u>				
10	Childs Avenue to 16th Street	52	24	11
11	16th Street to 27th Street	80	37	17
12	27th Street to Olive Avenue	161	75	35
13	Olive Avenue to Donna Drive	183	85	39
14	Donna Drive to Yosemite Ave	134	62	29
15	Yosemite Ave to N. City Limits	95	44	20
<u>Olive Avenue:</u>				
18	Snelling Hwy to “R” Street	310	144	67
19	“R” Street to “M” Street	242	112	52
20	“M” Street to “G” Street	233	108	50
21	“G” Street to Parsons Avenue	129	60	28
22	Parsons Avenue to McKee Rd	75	35	16
23	McKee Road to East City Limits	43	20	9
<u>“R” Street:</u>				
24	Childs Avenue to 16th Street	43	20	9
25	16th St. to N. Bear Creek Drive	96	45	21
26	N. Bear Creek Dr. to Olive Ave	149	69	32
27	Olive Ave to North City Limits	103	48	22
<u>Yosemite Avenue</u>				
28	West City Limits to “G” Street	101	47	22
29	“G” Street to East City Limits	112	52	24

Source: Brown-Buntin Associates, Inc., Noise Consultants

Table 10.7

Noise Level Increases on Parsons Avenue

Parsons Avenue Corridor Project EIR
City of Merced, California

Parsons Avenue Roadway Section	Existing LdN (dB)	Year 2002* LdN (dB)	Year 2010* LdN (dB)	Total Increase (dB)
South of Yosemite Ave.	50	70	71	+21
North of E. Olive Ave	64	71	72	+8
South of E. Olive Ave	64	71	72	+8
North of Bear Creek	60	71	72	+12
South of Bear Creek	60	70	71	+11
North of E. 27th Street	55	70	71	+16
South of E. 27th Street	60	70	71	+11
North of Yosemite Pkwy	50	70	70	+20
South of Yosemite Pkwy	64	70	71	+7
North of Childs Ave	64	70	70	+6

*Calculated using traffic volumes supplied by Wilbur Smith Associates

Source: Duncan and Jones, Urban and Environmental Planning Consultants, *Parsons Avenue Corridor Project, Draft Environmental Impact Report, 1992.*

Table 10.8
Projected (2010) Noise Contour Data for Local Streets

		Distance (Feet) from Center of Roadway to LDN Contours Future (2010) Contours		
Segment No.	Description	60 dB	65dB	70dB
<u>Childs Avenue:</u>				
1	MartinLuther King Jr Way/J St to Hwy 99	167	78	36
2	Hwy 99 to Parsons Avenue	277	128	80
3	Parsons Ave to Coffee Ave	142	66	31
<u>“G” Street:</u>				
4	Childs Avenue to Hwy 99	171	79	37
5	Hwy 99 to 16th Street	374	173	81
6	16th Street to 27th Street	492	228	106
7	27th Street to Olive Avenue	667	309	144
8	Olive Avenue to Donna Drive	538	250	116
9	Donna Drive to Yosemite Ave	494	229	106
10	Yosemite Ave to Cardella Rd	427	198	92
<u>“M” Street:</u>				
11	Childs Avenue to Hwy 99	125	58	27
12	Hwy 99 to 16th Street	223	104	48
13	16th Street to 27th Street	324	150	70
14	27th Street to Olive Avenue	341	158	73
15	Olive Avenue to Donna Drive	213	99	46
16	Donna Drive to Yosemite Ave	122	57	26
17	Yosemite Ave to N. City Limits	69	32	15
<u>Olive Avenue:</u>				
22	Snelling Hwy to “R” Street	834	387	180
23	“R” Street to “M” Street	556	258	120
24	“M” Street to “G” Street	459	213	99
25	“G” Street to Parsons Avenue	289	134	62
26	Parsons Avenue to McKee Rd	247	115	53
27	McKee Road to East City Limits	111	52	24
<u>“R” Street:</u>				
28	Childs Avenue to Hwy 99	81	37	17
29	Hwy 99 to 16th Street	387	180	83
30	16th St. to N. Bear Creek Drive	302	140	65
31	N. Bear Creek Dr. to Olive Ave	389	181	84
32	Olive Ave to North City Limits	206	96	44
<u>Yosemite Avenue</u>				
33	“M” Street to “G” Street	259	120	56
34	“G” Street to McKee Road	270	125	58
35	West City Limits to “M” Street	257	119	55

Source: Brown-Buntin Associates, Inc., Noise Consultants

Noise Contour Computations for Airports

Noise contour lines for the Merced Municipal Airport (MMA) for the base year 1990 and 2010 were done as part of the Airport Master Plan. The City of Merced, under a grant from the Federal Aviation Administration (FAA), retained

Hodges and Shutt (consultants) to prepare the comprehensive Master Plan for the MMA. The noise contours were obtained utilizing the computer-based Integrated Noise Model (INM) developed by the FAA. The Noise Model input data for the MMA are found in *Table 10.9*.

Table 10.9

Noise Model Input Data for Merced Municipal Airport

AIRCRAFT MIX (Estimated 1989 Activity Level)

<u>Aircraft Type</u>	<u>Annual</u>	<u>Total Operations</u>	<u>Percentage</u>
		<u>Average Day</u>	
Single-Engine, Propeller	27,995	76.69	50.9
Single-Engine, Piston	16,500	45.20	30.0
Light Twin-Engine, Piston (e.g., Beech Baron)	8,250	22.60	15.0
Light Twin-Engine, Turboprop (e.g., DeHavilland Twin)	2,200	6.02	4.0
Small Business Jet	<u>55</u>	<u>0.15</u>	<u>0.1</u>
Total	55,000	150.66	100

AIRCRAFT MIX (Projected 2010 Activity Level)

<u>Aircraft Type</u>	<u>Annual</u>	<u>Total Operations</u>	<u>Percentage</u>
		<u>Average Day</u>	
Single-Engine, Propeller	42,415	116.20	49.9
Single-Engine, Piston	25,500	69.86	30.0
Light Twin-Engine, Piston (e.g., Beech Baron)	12,750	34.93	15.0
Light Twin-Engine, Turbofan (e.g., Sabreliner 80)	1,700	4.65	2.0
Medium Twin-Engine, Turboprop (e.g., Saab 340)	1,700	4.65	2.0
Small Business Jet	85	0.23	0.10
Medium Business Jet	<u>850</u>	<u>2.32</u>	<u>1.0</u>
Total	85,000	232.84	100

TIME OF DAY (Estimated 1989 and Projected 2010)

<u>Aircraft Type</u>	<u>Type of Operation</u>	Percentage of Operations by Aircraft Type		
		<u>Day</u>	<u>Evening</u>	<u>Night</u>
		<u>7:00 a.m.- 7:00 p.m.</u>	<u>7:00 p.m.- 10:00 p.m.</u>	<u>10:00 p.m.- 7:00 a.m.</u>
Single-Engine, Propeller	Ldg & T/O	89	10	1
	Touch & Go	100		
Single-Engine, Piston	Ldg & T/O	89	10	1
Light Twin-Engine, Piston	Ldg & T/O	89	10	1
Light Twin-Engine, Turboprop	Ldg & T/O	89	10	1
Medium Twin-Engine, Turboprop	Ldg & T/O	89	10	1
Small Business Jet	Ldg & T/O	89	10	1
Medium Business Jet	Ldg & T/O	89	10	1

RUNWAY UTILIZATION (Estimated 1989 and Projected 2010)

<u>Aircraft Type</u>	<u>Time</u>	Percentage of <u>Landings</u>		Percentage of <u>Landings</u>	
		<u>Rwy 12</u>	<u>Rwy 30</u>	<u>Rwy 12</u>	<u>Rwy 30</u>
Single-Engine, Propeller	All	1	99	1	99
Single-Engine, Piston	All	1	99	1	99
Light Twin-Engine, Piston (e.g., Beech Baron)	All	1	99	1	99
Light Twin-Engine, Turbofan (e.g., Sabreliner 80)	All	1	99	1	99
Medium Twin-Engine, Turboprop (e.g., Saab 340)	All	1	99	1	99
Small Business Jet (e.g., Cessna Citation)	All	1	99	1	99
Medium Business Jet (e.g., Lear 35)	All	1	99	1	99

FLIGHT TRACKS - LANDINGS (Estimated 1989 and Projected 2010)

<u>Aircraft Type</u>	<u>Runway 12</u>	<u>Track 1a</u>	<u>Runway 30</u>	<u>Track 1c</u>
	<u>Track 1a</u>		<u>Track 1b</u>	
Single-Engine, Propeller	100	50	25	25
Single-Engine, Piston	100	50	25	25
Light Twin-Engine, Piston (e.g., Beech Baron)	100	50	25	25
Light Twin-Engine, Turbofan (e.g., Sabreliner 80)	100	50	25	25
Medium Twin-Engine, Turboprop (e.g., Saab 340)	100	50	25	25
Small Business Jet (e.g., Cessna Citation)	100	50	25	25
Medium Business Jet (e.g., Lear 35)	100	50	25	25

FLIGHT TRACKS - TAKEOFFS (Estimated 1989 and Projected 2010)

<u>Aircraft Type</u>	<u>Runway 12</u>	<u>Track 1a</u>	<u>Runway 30</u>	<u>Track 1c</u>
	<u>Track 1a</u>		<u>Track 1b</u>	
Single-Engine, Propeller	100	50	25	25
Single-Engine, Piston	100	50	25	25
Light Twin-Engine, Piston (e.g., Beech Baron)	100	50	25	25
Light Twin-Engine, Turbofan (e.g., Sabreliner 80)	100	50	25	25
Medium Twin-Engine, Turboprop (e.g., Saab 340)	100	50	25	25
Small Business Jet (e.g., Cessna Citation)	100	50	25	25
Medium Business Jet (e.g., Lear 35)	100	50	25	25

FLIGHT TRACKS - TOUCH & GOES (Estimated 1989 and Projected 2010)

<u>Aircraft Type</u>	<u>Runway 30</u>
	<u>Track N/A</u>
Single-Engine, Propeller	40

Source: Merced Municipal Airport Master Plan, 1990

RESOLUTION NO. 93-29

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
MERCED AMENDING THE NOISE ELEMENT OF THE GENERAL
PLAN

THE CITY COUNCIL OF THE CITY OF MERCED DOES HEREBY RESOLVE AS
FOLLOWS:

SECTION 1. Having been considered by the City Council
following a public hearing on March 15, 1993, the Noise Element of
the General Plan of the City of Merced is hereby amended to read as
set forth in Exhibit A attached hereto and incorporated herein by
reference.

SECTION 2. The City Clerk is hereby directed to endorse upon
the General Plan of the City of Merced the above revision and the
date of this resolution.

PASSED AND ADOPTED by the City Council of the City of Merced
at a regular meeting held on the 15th day of March, 1993, by the
following called vote:

AYES: Council Members: KNUDSEN, HASSETT, DIAS, BERNASCONI,

NOES: Council Members: BERGMAN

ABSTAIN: Council Members: NONE

ABSENT: Council Members: LINDSEY, (ONE VACANCY)

APPROVED:

ATTEST:

JAMES G. MARSHALL, CITY CLERK

BY:


(Deputy City Clerk)


Mayor

(SEAL)

RESGNPLNNE

CITY OF MERCED
Planning Commission

RESOLUTION #2277

WHEREAS, the Merced City Planning Commission, at its regular meeting of February 17, 1993, held a public hearing and considered General Plan Amendment #93-01, hearing on draft revision of the Noise Element; and

WHEREAS, the Merced City Planning Commission concurs with Findings A and B of Staff Report #93-07; and,

WHEREAS, after reviewing the City's Initial Study and Draft Environmental Determination, and fully discussing all the issues, the Merced City Planning Commission does resolve to hereby recommend adoption of a Draft Negative Declaration regarding Initial Study #93-05.

Upon motion by Commissioner SPURGEON, seconded by Commissioner ANDERSEN, and carried by the following vote:

AYES: Commissioners Hinds, Melanson, Garcia, Spurgeon, Andersen,
Chairperson Sullivan
NOES: None
ABSENT: Commissioner Stoddard-Schmit

NOW, THEREFORE, BE IT RESOLVED that the Merced City Planning Commission does recommend approval of General Plan Amendment #93-01 (by adopting the revised Noise Element and Technical Appendices).

Upon motion by Commissioner SPURGEON, seconded by Commissioner ANDERSEN, and carried by the following vote:

AYES: Commissioners Hinds, Melanson, Garcia, Spurgeon, Andersen,
Chairperson Sullivan
NOES: None
ABSENT: Commissioner Stoddard-Schmit

Adopted this 17th day of February, 1993.

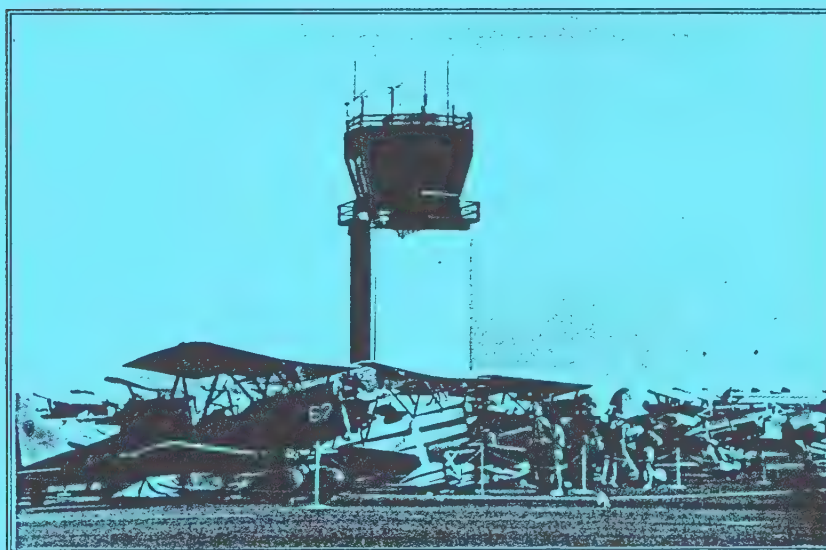
Barbara Sullivan
Chairperson, Planning Commission
of the City of Merced, California

ATTEST:

Philip W. Block
Secretary

Chapter 11--Safety

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*(Recommended for Adoption by Merced City Planning Commission on December 7, 1994
by Resolution #2341)*

(Adopted by Merced City Council on January 3, 1995 by Resolution #95-04)

(Format Changes Only--7/12/96)



Chapter 11

Safety

11.1 INTRODUCTION

The main purpose of the Safety Element is to provide policies and implementing actions aimed at reducing injuries, death, property damage, and the economic and social dislocation resulting from natural hazards. The Safety Element is based on an analysis of geologic and other hazards relevant to Merced and on ways of protecting the community from any unreasonable risk associated with such hazards.

11.1.1 Scope of the Safety Element

The Safety Element provides a systematic approach for responding to hazards relevant to the City of Merced through a set of goals, policies, and actions designed to deal with those hazards. This report recognizes that hazards are an unavoidable aspect of society and that, therefore, some degree of risk is inherent in everyday life.

The Merced City planning area has no known history or known geographical conditions for surface rupture, tsunamis, or hydrocompaction. These hazards are only briefly described in the technical appendices but otherwise are not discussed in detail. All other hazards

relevant to Merced, however, are addressed in more detail in other sections of this Element. This introduction includes an overview of the City's Emergency Response/Disaster Plan. Section 11.2 includes the goals, policies, and implementing actions. Section 11.3 presents an analysis of the relevant issues as well as hazard response, and Section 11.4 contains all the technical information and the support data of the hazards analysis.

11.1.2 City of Merced Emergency Response/Disaster Plan General Overview

During 1993, the City of Merced was involved in the process of updating its Emergency Response/Disaster Plan. The Plan was originally drafted in 1950 with subsequent updates in the 70's, 80's, and presently in the 90's to meet the most recent local, state, and federal requirements. The Plan consists of: 1) The basic plan; 2) The annexes/checksheets; 3) Construction and engineering; and 4) Movement.

The purpose of the basic plan is to provide Emergency planning/organization and response. The annexes/

checksheets deal with emergency management, law enforcement, traffic control, fire, medical, rescue and radiological material, shelter, and support and resources. The Construction and Engineering section deals basically with emergency repairs, route recovery, and post-event inspection of facilities; and the Movement section deals with evacuation procedures. The plan is designed to prepare the community for responding to an emergency situation in a highly organized and efficient way so that chaotic situations are avoided.

11.1.3 Definitions

Earthquake:

An earthquake is a perceptible trembling to violent shaking of the ground produced by the sudden displacement of rocks below the earth's surface.

Epicenter:

An epicenter is the point directly above the segment of a fault that shifts in an earthquake. Surface rupture can be the result in the areas immediately surrounding a fault or the epicenter.

Fault:

A fracture along which rocks on one side have been displaced with respect to those on the other side. An "active fault" is one that has exhibited surface displacement within the past 11,000 years. A "potentially active fault" has shown such displacement during the last two million years.

Mercalli Scale:

The Mercalli scale measures the earthquake's effect on humans and real property.

Richter Scale:

The Richter scale is a function of the energy expended in an earthquake, and is based on logarithmic (base 10) measurement. (For example, an earthquake of "6" in the Richter scale expends 10 times the energy of an earthquake measured at "5".

Seiche:

A seiche is an earthquake-related event where the sudden shifting of the ground creates a wave. In an earthen dam, if the wave is large enough, it can overtop it and result in the failure of the dam.

11.2 SAFETY GOALS, POLICIES, AND ACTIONS

Goal Area 1: Disaster Preparedness

GOAL

- General Disaster Preparedness

POLICY

- S-1.1 Develop and maintain emergency preparedness procedures for the City.

Policy S-1.1

Develop and Maintain Emergency Preparedness Procedures for the City.

Implementing Actions:

- 1.1.a Keep up-to-date through annual review the City's existing Emergency Plan.
- 1.1.b Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters.
- 1.1.c Require that all new annexation areas be incorporated into the City's emergency plan at the time of annexation.
- 1.1.d Establish a process whereby the City of Merced systematically encourages review of and familiarity with the most current community disaster plan by those in local government and other local residents who hold responsible positions.
- 1.1.e Continue to adopt and respect agreements with the County and adjacent communities for mutual and automatic aid assistance.

Goal Area 2: Seismic Safety

GOAL

- **Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity**

POLICIES

- S-2.1** Reduce the potential danger from earthquake and seismic-related activity from existing buildings where necessary.
- S-2.2** Encourage the improvement of all public facilities and infrastructure such as natural gas, fuel, sewer, water, electricity, and railroad lines and equipment with up-to-date seismic safety features.
- S-2.3** Restrict urban development in all areas with potential ground failure characteristics.

Policy S-2.1

Reduce the Potential Danger from Earthquake and Seismic-Related Activity from Existing Buildings Where Necessary.

Implementing Actions:

- 2.1.a** Evaluate the need for and the cost of setting up an enforcement program for eliminating any unreasonable risk associated with seismically unsafe buildings through reinforcement or removal where necessary.
- 2.1.b** Study the possibility of obtaining State Historic Preservation, Community Development Block Grant, Redevelopment, or other available money to assist with repairs of unsafe buildings..
- 2.1.c** Continue to require that new development meet the standards of Seismic Zone 3..
- 2.1.d** Pursue uniform infrastructure, building, and land use requirements and policies regarding disaster avoidance within the City's Specific Urban Development Plan boundaries.
- 2.1.e** Review all possible new additions to the City's Building and Fire Codes based on up-to-date technology every three years.
- 2.1.f** Develop mitigation plans for each of the buildings identified in the Building Division's 1990 Seismic Evaluation of Downtown Merced as "immediate hazards."
- 2.1.g** Continue to implement the 1993 State law requiring seismic retrofitting of existing buildings when there is a change of use, additions, or remodeling that affects unreinforced masonry portions of the structure.

Policy S-2.2

Encourage the Improvement of All Public Facilities and Infrastructure, Such as Natural Gas, Fuel, Sewer, Water, Electricity, and Railroad Lines and Equipment with Up-To-Date Seismic Safety Features.

Implementing Actions:

- 2.2.a Work with Caltrans to review and, where possible, increase the earthquake stability of grade-separated transportation structures such as highway bridges and overpasses within the City's planning area.
- 2.2.b Provide adequate storage facilities to insure an adequate supply of water in the event of seismic activity. An evaluation of the seismic safety of the water system, including the elevated water towers, should be completed as part of the update of the Water Master Plan.

Policy S-2.3

Restrict Urban Development in All Areas with Potential Ground Failure Characteristics.

Implementing Actions:

- 2.3.a Investigate the feasibility of performing an inventory of areas with generally unstable ground within the SUDP area and work with the County to restrict or prohibit their development. In the Merced planning area, most of the unstable ground are in old streams beds, near embankments, and adjacent to streams with sufficient velocities to erode the bank.
- 2.3.b Retain a high level of groundwater supply in order to reduce the possibility of land subsidence, including the initiation of an educational program to discourage excessive, inefficient uses of water.

Goal Area 3: Flooding

GOAL

- **A City Free From Other Than Street Flooding**

POLICIES

- S-3.1 Endeavor to remove most of the existing City, and the vast majority of the SUDP, from the 100-year floodplain.
- S-3.2 Maintain essential City services in the event of flooding or dam failure..

Policy S-3.1

Endeavor to Remove Most of the Existing City, and the Vast Majority of the SUDP, From the 100-Year Floodplain.

Implementing Action:

- 3.1.a Work on the development and implementation of a funding plan to provide for the City's share of the Merced Streams Project. Consider basing assessments on those areas which would benefit from removal from the 100-year flood and/or Lake Yosemite's inundation area.

Policy S-3.2

Maintain Essential City Services in the Event of Flooding or Dam Failure.

Implementing Actions:

- 3.2.a Continue to build all pump stations (both sewer and water) entryways at one (1) foot above the 100-year flood elevation and consider additional standards to address flooding due to dam failure.
- 3.2.b Continue the "flood-proofing" of high-value or important City infrastructure, such as lift stations and signal control functions, as required by the City's Flood Damage Prevention Ordinance.

Goal Area 4: Fire Protection

GOAL

- **Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression**

POLICIES

- S-4.1 Promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community.
- S-4.2 Maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.

Policy S-4.1

Promote the Concept of Fire Protection Master Planning with Fire Safety Goals, Missions, and Supporting Objectives for the Community.

Implementing Actions:

- 4.1.a Provide additional fire station locations as expansion of the City occurs in order to maintain a response objective of 4 to 6 minutes citywide.
- 4.1.b Work with the Fire Department and the Environmental Health Division to identify fire districts that will require specialized manpower and equipment, such as businesses that use hazardous materials, and request that land uses or structures with similar needs be confined to these districts.

Policy S-4.2

Maintain a Reasonable Level of Accessibility and Infrastructure Support for Fire Suppression, Disaster, and Other Emergency Services.

Implementing Actions:

- 4.2.a Continue to use 8-inch or larger pipe in high-value districts. In residential districts, additional "looping" or completion of water main grids shall continue to be provided where possible so that lengths of 6-inch pipe on the long side of the block will not exceed 600 feet.
- 4.2.b Maintain current standards defined in the Uniform Fire Code and City Standards for the spacing of fire hydrants. In general, these standards call for 500-foot spacing in residential areas and 300-foot spacing in commercial and industrial areas.
- 4.2.c Continue to provide fire prevention and disaster preparedness information through the schools, public interest groups, and other facilities and people.
- 4.2.d Expand the inspection program to include the following recommendations by the Insurance Services Office of California:
- a. Perform fire prevention inspections of all buildings other than dwellings once a year, except hazardous occupancies which should be inspected twice a year.
 - b. Establish a program of adequate reinspection of electrical wiring and equipment.
- 4.2.e Expand the present nuisance abatement program to include a height limit on weeds during the dry season (mid-April through mid-November) in both vacant and developed lots, abandoned vehicles, and vacant buildings.

Goal Area 5: Airport Safety

GOAL

- **A Safe Airport Environment Both Above and On the Ground**

POLICIES

- S-5.1** Continue to protect approach areas and control zones for both existing and future runway systems through land use regulations and property acquisition where necessary.
- S-5.2** Prevent the encroachment of potential hazards to flight within the Airport's airspace.

Policy S-5.1

Continue to Protect Approach Areas and Control Zones for Both Existing and Future Runway Systems Through Land Use Regulations and Property Acquisition Where Necessary.

Implementing Actions:

- 5.1.a** Retain existing agricultural land uses and discourage residential land use designations within the Merced Municipal Airport referral area.
- 5.1.b** Limit industrial/commercial uses to those with peak occupancy levels of 25 persons/acre or less within Zone 2 of the Merced Municipal Airport referral area..
- 5.1.c** Explore alternatives for acquiring approach protection easements and overflight easements for properties within the Merced Municipal Airport referral area.

Policy S-5.2

Prevent the Encroachment of Potential Hazards to Flight Within the Airport's Airspace.

Implementing Action:

- 5.2.a** Continue to follow Federal Aviation Regulation standards regarding the maximum height of structures and other objects within the Merced Municipal Airport referral area.

Goal Area 6: Crime

GOAL

- **Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community**

POLICIES

S-6.1 Provide superior community-based police services.

S-6.2 Provide services and personnel necessary to maintain community order and public safety.

Policy S-6.1

Provide Superior Community-Based Police Services.

Implementing Actions:

- 6.1.a Continue programs, such as "Neighborhood Watch" which increase residents' involvement in, and ownership of, police operations.
- 6.1.b Direct services and outreach programs towards youths in the community.
- 6.1.c Locate future police facilities to enhance the "community policing" concept through the expansion of existing or the addition of new police service districts as the City grows.

Policy S-6.2

Provide Services and Personnel Necessary to Maintain Community Order and Public Safety.

Implementing Actions:

- 6.2.a Maintain a police force sufficiently staffed and deployed to ensure quick response times to emergency calls.
- 6.2.b Encourage approaches to crime prevention to be designed into new buildings and subdivisions.
- 6.2.c Identify changes to current laws and ordinances or create new ones to help carry out crime prevention strategies.

Goal Area 7: Hazardous Materials

GOAL

- **Hazardous Materials Safety for City Residents**

POLICIES

- S-7.1 Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.
- S-7.2 Ensure that hazardous materials are cleaned up before a property is developed or redeveloped.

Policy S-7.1

Prevent Injuries and Environmental Contamination Due to the Uncontrolled Release of Hazardous Materials.

Implementing Actions:

- 7.1.a Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.
- 7.1.b Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.
- 7.1.c Continue to make sure underground storage tanks containing hazardous materials are properly installed, used, and removed.
- 7.1.d Provide continuing training for hazardous materials enforcement and response personnel.

Policy S-7.2

Ensure that Hazardous Materials are Cleaned Up Before a Property is Developed or Redeveloped.

Implementing Actions:

- 7.2.a Request an assessment of the past use of hazardous materials and soils analysis on proposed development sites.
- 7.2.b Continue to work with the State Department of Health Services and Merced County in developing cleanup programs for known hazardous waste sites within the Merced planning area.

11.3 RELEVANT ISSUES

Seismically induced ground shaking, ground failure, dam failure/seiche, flooding, and urban and wildland fires are considered the relevant hazards to the City of Merced. Other hazards such as surface rupture, tsunami, or hydro-compaction are briefly described in the Technical Appendices since the Merced Planning Area has no geographical conditions nor history for such hazards.

11.3.1 Seismically Induced Ground Shaking

Seismic safety has traditionally been looked at as an individual/family responsibility; however, because we are spending increasing amounts of time in public areas and because of our increased reliance on public services, our personal safety in an earthquake may depend in large part on what our City, employer, or local merchant has done to prepare. Earthquake activity can include severe ground settling, dam failure, and landslides, but most people equate earthquakes with the movement of the earth along a fault or fracture zone. Merced is vulnerable to possible earthquake damage from earthquake epicenters in other portions of the State, earthquakes on “nearby” faults, and earthquakes on what are now undiscovered faults within the Central Valley.

Historically, Merced has received several jolts a year from earthquakes in surrounding parts of the State. Typically, it has been the larger earthquakes from these areas that cause damage. Because earthquakes run in “cycles of frequency and intensity” where

a period of long inactivity is followed by several medium and large quakes which end in a “big one,” it is theorized that Merced, along with the rest of California, may experience rising earthquake risks. A more detailed discussion of these risks, historic seismic activity, and intensity of ground shaking can be found in the Technical Data (Section 11.4.1).

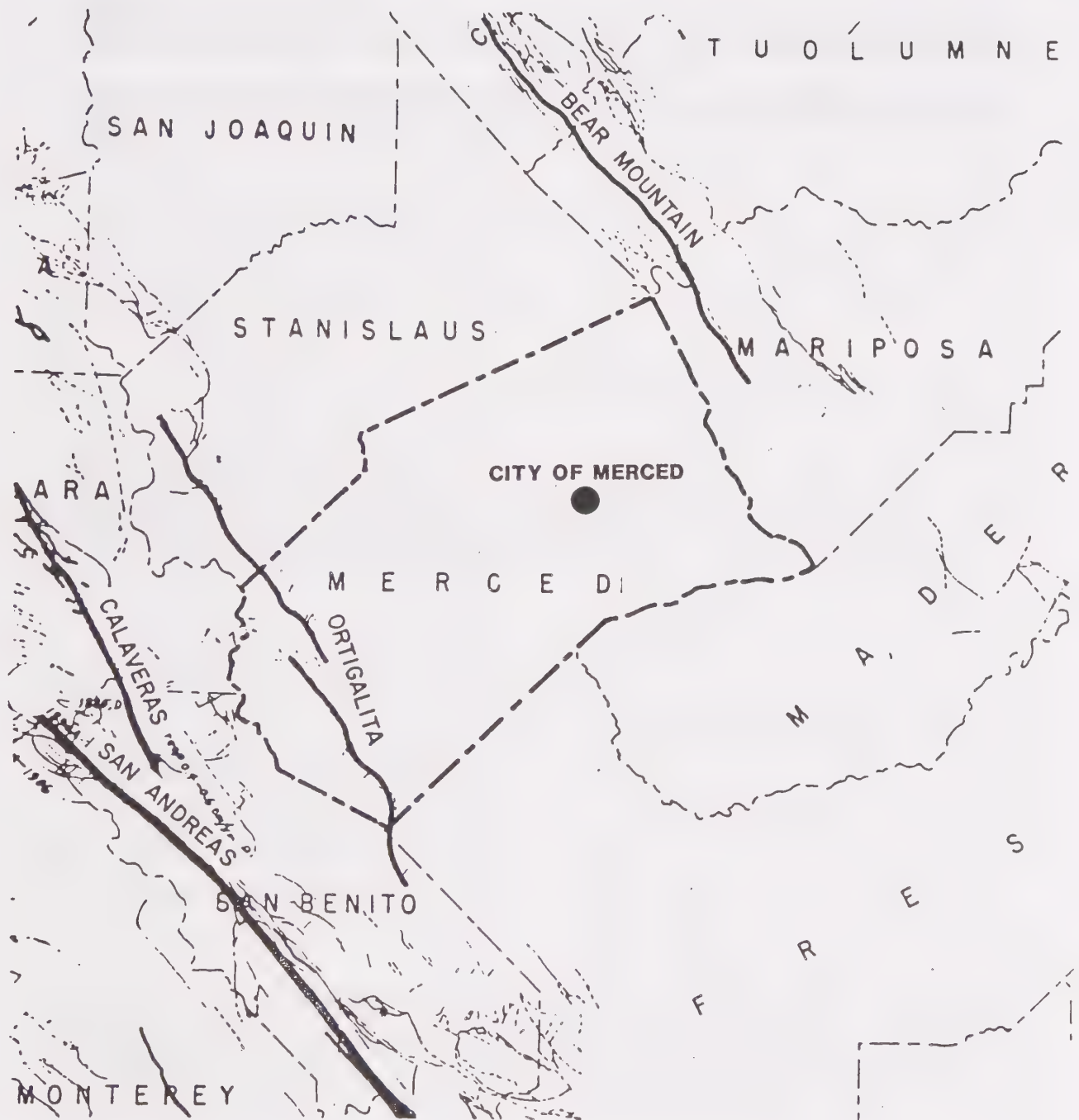
The amount of damage to structures from an earthquake is determined by several factors: (1) Distance from the earthquake epicenter; (2) nature of the ground; (3) type of construction; and (4) the duration of the shaking.

The Distance From the Epicenter

Merced is vulnerable to shaking from a number of faults that run through the mountains to our east and west. These have shaken Merced in the past. Of most notoriety is the San Andreas Fault, 58 miles away. There are, however, four active faults closer to Merced than the San Andreas. These faults are shown in *Figure 11.1*.

The Nature of The Ground

As illustrated by the intensity maps found in the Technical Appendices (*Figures 11.13 through 11.15* in Section 11.4.1), earthquake shockwaves are “carried” by the relatively loose, wet soils that exist between Los Banos and Merced. For this reason, Merced is somewhat more likely to experience heavy shaking from surrounding parts of the state than some of its neighbors. Areas of Merced with high water tables and loose soils are likely to experience more damage than their counterparts in other areas of the City because of the



**SOURCE: California Division of Mines & Geology (1971)
and Merced County Year 2000 General Plan**

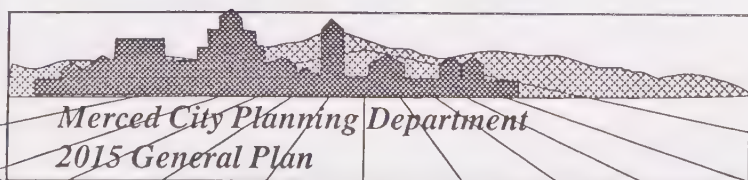


Figure 11.1

**Geologic Faults In and
Around Merced County**

shockwave carrying ability of the ground and liquefaction. Next to damage from ground shaking, liquefaction is the most serious earthquake hazard. Liquefaction of the ground will be covered in more detail later in this document.

The Type of Construction Used

Typically, buildings designed and constructed since the mid-1970's and according to modern codes, have generally performed very well during earthquakes. However, the following construction types have garnered some concern within the seismologist community regarding their safety in earthquakes:

a. Concrete-Frame Structures Built Before 1976

Although Merced has relatively few buildings of this type, the cost of strengthening the necessary connections is a relatively inexpensive procedure, while potential benefit is great. These buildings generally house industrial activities and their collapse could cause severe economic loss and possibly the release of hazardous materials.

b. Unreinforced Masonry Buildings

During 1990, a seismic evaluation of part of downtown Merced was performed by staff of the Building Division. The survey of 78 buildings in Downtown revealed seven buildings of immediate hazard and 58 potentially hazardous buildings. Owners of the seven buildings of immediate hazard were notified and some repairs and further evaluation was performed. However, the

repairs made to those structures are not to be considered in lieu of any seismic rehabilitation measures that may be required by the City.

Of the 58 potentially hazardous buildings, 29 were found to be unreinforced masonry (URM). The remaining 20 buildings surveyed were found to need an evaluation performed when they change use or propose removal, since they were not found potentially hazardous, but did not score high enough to be considered completely safe.

It has also been determined that an earthquake of 5.0 magnitude or greater on any of the surrounding faults could definitely damage numerous downtown buildings and subject the general public to potential life-threatening concerns.

c. Unbraced Parapets and Architectural Trim

Although a particular building may be structurally sound enough to withstand a particular earthquake, its architectural trim may prove hazardous if not adequately braced or secured.

HAZARD RESPONSE -- GROUND SHAKING

When ground shaking occurs, people are generally encouraged to stay where they are and to prepare themselves for any aftershocks that may take place. For these reasons, our discussion in this chapter will not involve evacuation routes and minimum road widths as they pertain to evacuation.

Merced currently has 18 wells scattered throughout the City. Eight of these wells pump directly into the water main system, and 10 of these wells pump into the City's four water towers. It is Merced's current policy to place one well in each square mile of the City, reinforce each of the well stations beyond required seismic standards, supply each well with standby power to last about three normal-use days, interloop the water main system, and construct water piping of flexible ductile iron. For these reasons, it is reasonable to expect newer parts of the City to retain much of its water supply capacity in the event of an earthquake.

Older areas of Merced and those neighborhoods which were supplied water while under County jurisdiction are much less prepared. Many of these areas are supplied by the four water towers and use iron piping which has become brittle. The four water towers were built in 1917, 1934, 1951, and 1969, and each is supplied by one to three wells which ring the tower. In recent years, the City has taken extensive measures to insure that the towers and wells are inspected regularly and are properly maintained.

11.3.2 Ground Failure

As introduced in the "Ground Shaking" portion of this section, ground failure can be a significant concern under seismic conditions. The shaking of an earthquake may cause relatively loose soil to compact, creating depressions which may cause a myriad of septic, well, pipe, and foundation problems. If the loose soil happens to be saturated with water, the water could be squeezed to

the surface where it interacts with the top layers to produce a weak gelatin-like substance of dirt and water. This mixture lends no supporting capability to the buildings that stand on it and is known as liquefaction. Likewise, seismic activity may be the impetus for landslides in those areas with unstable slopes where retaining barriers are destroyed in the ground shaking, or where liquefaction occurs on what would otherwise be stable slopes.

Differential settlement, resulting in the compaction of loose, less cohesive soils, may be caused by earthquakes and could occur in parts of Merced. The most likely areas are those in which the groundwater surface is deep (otherwise liquefaction would be more likely), the soils are loose to medium-dense, and the soil profile includes strata of loose and uniformly graded sand. The potential for ground subsidence due to earthquake motion is largely dependent on the magnitude, duration, and frequency of the earthquake waves.

Although no liquefaction hazard areas have been identified to date in the planning area, the future potential of liquefaction is recognized because unconsolidated sediments and a high water table do coincide in many areas. The California Office of Emergency Services has indicated that those areas at the time of an earthquake with the combination of fine-grain, sandy soils and perched, or a water table at a depth of 25 feet or less, may experience liquefaction providing that the shaking is of a magnitude and duration that would collapse the ground and the water is able to percolate to the upper soil levels. A deep, thick, unbroken hardpan may

prohibit the necessary percolation, and thus prevent liquefaction from occurring where other conditions are present.

Liquefaction may have occurred in the newly organized town of Merced during the San Francisco Earthquake of 1906. The *Merced County Sun* of April 20, 1906 gave the following description:

"... At the Troy Laundry on Main Street where there is a brick oil tank under construction, the excavation filled with two feet of water and the walls of the tank were disturbed. Pools of water on vacant lots throughout the City rose. The earth was separated from some buildings..."

The appearance of pools of water, the "disturbance" of the tank walls, and the earth separating from the building are common to liquefaction.

Seismic activity, however, is not the only cause of ground failure. Subsidence, land and mud slides, and hydro-compaction all have non-seismic causes.

Unlike tectonic or seismically stimulated subsidence which occurs suddenly, most of the various cases of subsidence happen slowly over a long period of time. The west side of the San Joaquin Valley has been recognized as the world's largest area of subsidence due to groundwater withdrawal. Approximately 423 square miles have settled more than one foot since the 1950's. Up to recently, the County's subsiding area has been in the vicinity of Los Banos; however, a new subsiding area has been discovered near El Nido east of the San Joaquin River. As shown in **Figure 11.2**, no known subsidence has occurred in the Merced planning area or

has accompanied our groundwater withdrawal as yet.

A landslide is the downhill movement of masses of earth material under the force of gravity. Movement may be very rapid, or so slow that a change of position can be noted only over a period of weeks or years. The size of a landslide can range from several square feet to several square miles. Landslides generally occur on slopes of 15 percent or greater. The planning area's topography is generally of slopes between 0 and 3 percent. These slopes are considered insufficient to produce other than sliding associated with seismic activity. However, in those instances where oversteepening or excessive watering occurs, some landslides may occur.

Small landslides covering several square feet have occurred along the banks of both Bear Creek and Black Rascal Creek as part of the natural erosion of the streams, and also as a result of human activity along the banks. Areas beyond the present Specific Urban Development Plan boundary may have a potential for landslide activity where the slopes are covered with deep soils or are heavily saturated with groundwater.

HAZARD RESPONSE -- GROUND FAILURE

In both seismically and otherwise caused ground failure, engineering treatment of either the ground or structures, or both, can sometimes stabilize hazards such as liquefaction. However, these solutions are often temporary and high cost may not justify their use. Other alternatives



SOURCE: Urban Geology Master Plan, California Division of Mines and Geology, 1973
and Merced County Year 2000 General Plan, 1990



Figure 11.2

Subsidence Areas in Merced County

include land use restrictions or controls through special ordinances. Regulating the type and density of use, or prohibiting building construction that is particularly susceptible to devastation in the event of ground failure in a given area, can be effective in handling potential hazards. Currently, the City has a policy of requiring a minimum of 50 feet from any creek's centerline or 25 feet from the crown of the creek, whichever is greater.

11.3.3 Dam Failure/Seiche

Dam failures can result from a number of natural or man-made causes such as earthquakes (creating a "seiche" or an overtopping of a dam), erosion, improper siting, rapidly rising flood waters, and structural/design flaws.

There are three general types of dams: earth and rockfill, concrete arch or hydraulic fill, and concrete gravity. Each of these types of dams has different failure characteristics. Merced is presently in the inundation area of two dams, Bear Reservoir Dam and Lake Yosemite Dam. Both of these dams are earthen-fill which makes them more flexible and, therefore, more earthquake resistant. However, they are more likely to fail if over-topped. In 1968, Yosemite Dam was in danger of failure because of heavy rains and flooding that had swollen the flood control canals that lead into Lake Yosemite. Reportedly, the canal dikes were dynamited and the incoming canal water was diverted to surrounding fields to prevent dam failure.

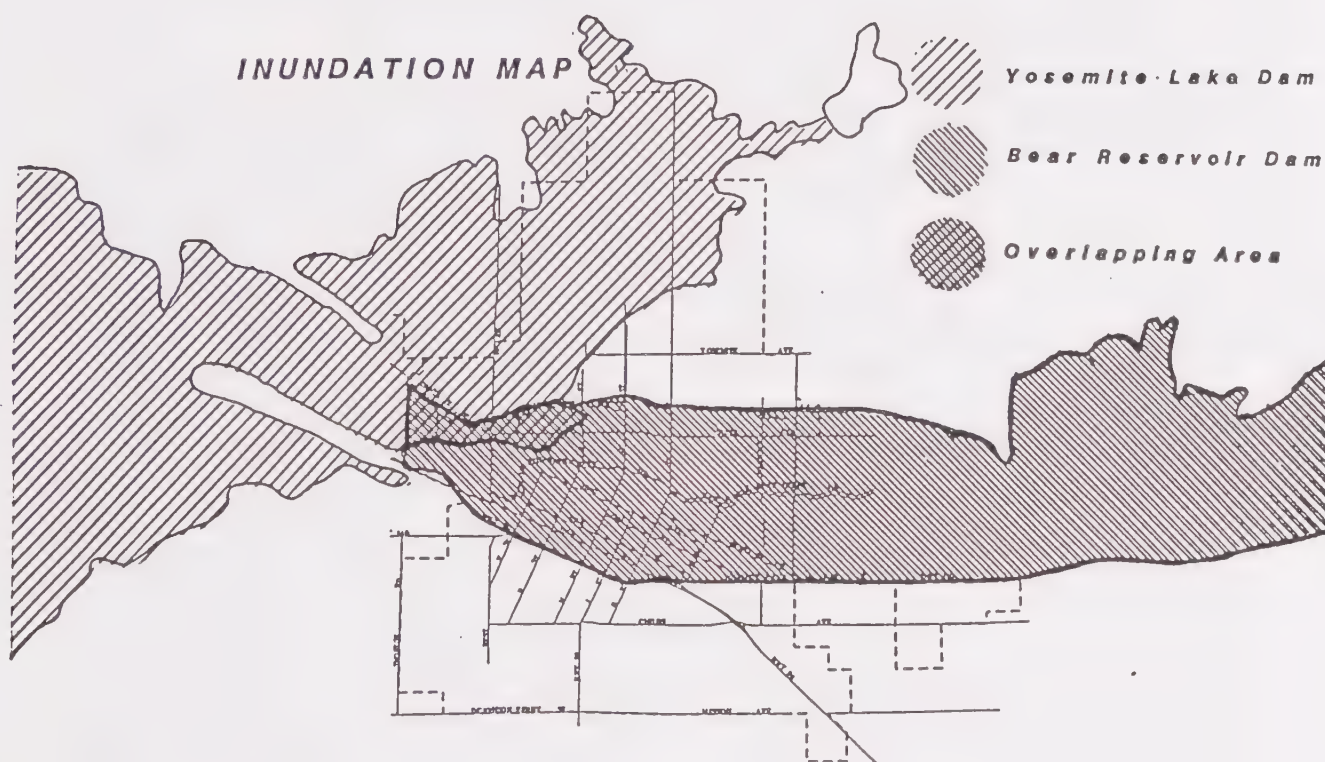
An earthen dam will fail gradually due to erosion of the breach created during the over-topping; the flood wave will build

gradually to peak and then decline until the reservoir is empty. A dam failure can cause loss of life, damage to property, and other ensuing hazards, as well as displacement of residents, the loss or partial loss of critical mass care facilities, and the destruction of bridges (evacuation routes) in the inundation path.

The effects of a possible dam failure upon Merced, and the ability of the local community to respond, seem to vary greatly by which dam would fail. Lake Yosemite's inundation area covers a relatively small portion of the City's planning area in North Merced, an area that is primarily residential or that is being considered for planned village developments (see *Figure 11.3*).

The Merced Streams Group Project and Flood Control Plan authorized by Congress in 1970, but not as yet completed due to lack of local matching funds, would divert the flood waters from the flood control canals which created problems in 1968, thus reducing the risk of Yosemite Dam failure. Castle Dam is complete, however, and a diversion structure, which diverts more than 1,200 cubic feet of water per second from MID's main canal is also complete. This reduces the flow in Fahrens Creek, thus reducing the likelihood of flooding within a given event.

The Bear Reservoir Dam inundation area, unlike the inundation area if Lake Yosemite Dam, covers most of Merced north of Highway 99. The dam, also being earthen, would fail gradually due to the erosion of the breach. The flood wave would build gradually to a peak and then decline until the reservoir is



SOURCE: Yosemite Dam Inundation Map from Merced County Planning Department and Bear Reservoir Breach Study from Merced Irrigation District



Figure 11.3

Dam Failure Inundation Areas

empty (see *Figure 11.3* on the previous page).

HAZARD RESPONSE -- DAM FAILURE

The damage control and disaster relief efforts, in the case of inundation from Bear Creek Reservoir, would most likely be required from local governments, private organizations, and from State and Federal governments. This "mutual aid" could consist of mass evacuation of the inundation areas, search and rescue operations, emergency medical care, food distribution, and temporary shelter for injured or displaced persons. State and Federal assistance could be useful to remove debris and clear roadways, demolish unsafe structures, assist in re-establishing public services and utilities, and provide continuing care and welfare for the affected population, including temporary housing of displaced persons.

Evacuation Routes and Water Supply

The County Evacuation Plan for both dams shows the Merced County Fairgrounds as the evacuee assembly points and addresses what evacuation routes, priorities, and procedures should be followed. The City's ability to supply the potable water requirements during this time will depend on which dam failed and the height of the inundation wave in relationship to the height of the 100-year flood. The current City policy on well facility construction as it relates to inundation is that the well facility entrance be one-foot higher than the 100-year flood elevation, that one facility be placed in each square mile, and that a three-day energy reserve be present at the pump.

There are currently only a few wells in the Lake Yosemite inundation area because the area is mostly undeveloped at this time. Furthermore, those existing wells that would be subject to inundation are in an area of relatively shallow inundation elevations. Bear Lake inundation, however, would be much more serious provided that actions were not taken to seal the wells within the six-plus hours prior to inundation.

11.3.4 Flooding

Flooding continues to be the most widespread weather-related safety hazard in the United States, and accounts for greater average annual property losses than any other single hazard. Flooding can be especially troublesome in the Central Valley because it is a natural event. The valley is a drainage basin for thousands of acres of Sierra and Diablo foothill and mountain land, and the frequent dry spells lead people to think that flooding cannot occur where they live. In 1911, 1935, and 1955, large floods occurred within those portions of Merced that were developed at the time; and in those intervening years, flooding occurred every three to five years (information concerning non-developed areas currently in the planning area and floods prior to 1911 is not available). See *Figure 11.4*.

Approximately 25 square miles of land in the Merced planning area are subject to 100-year or more frequent floods. This is illustrated by *Figures 11.5a* and *11.5b*. The Flood Insurance Rate Maps (F.I.R.M.) identify flood-prone areas which were required to be

MAIN & N STREET FLOODING



16TH STREET FLOODING



SOURCE: Merced County Historical Society



Figure 11.4

The Flood of 1935

recognized by the Federal Flood Disaster Protection Act. These maps are the source of more detailed flood information for the planning area, and are periodically updated to reflect new information.

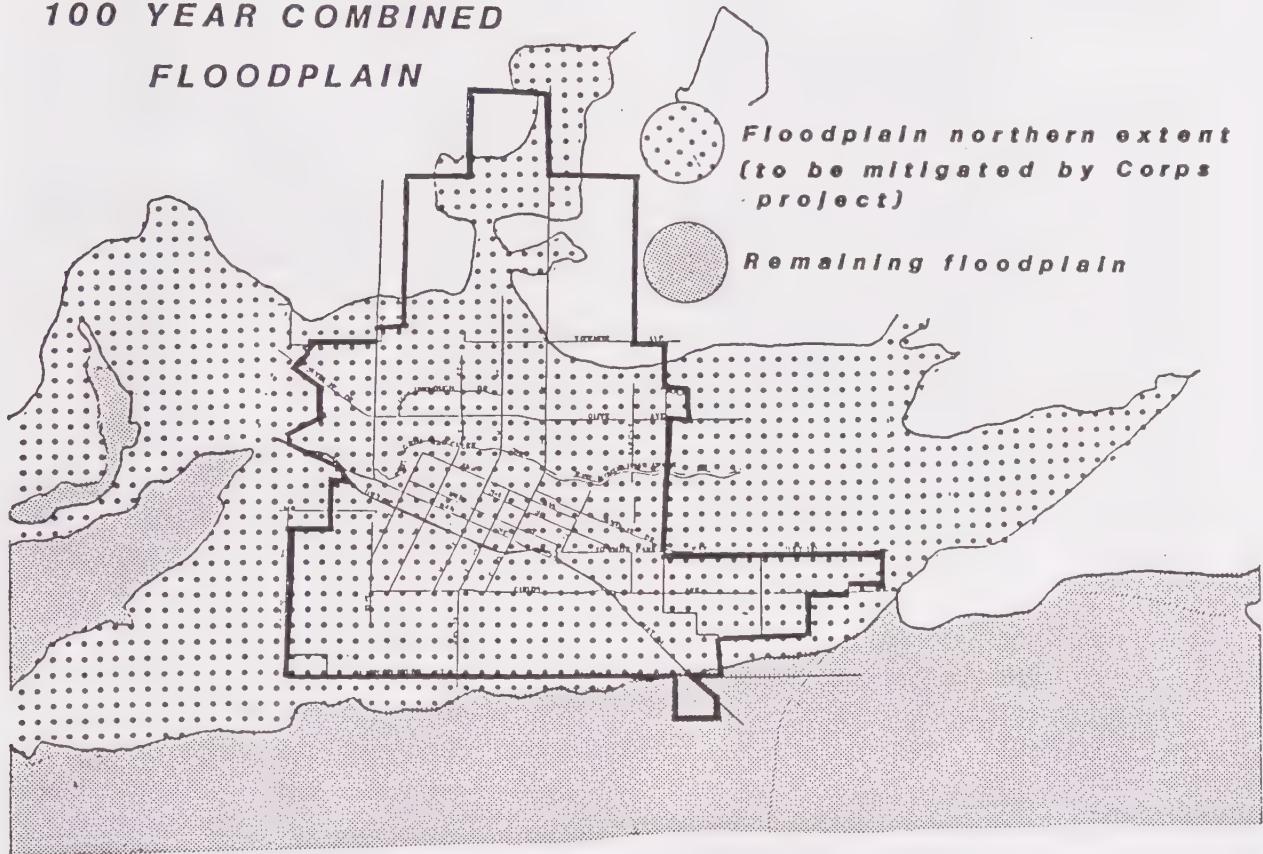
Changes in land use from agriculture to urban have profound effects on runoff and erosion of the land surface. Urbanization is commonly accompanied by paved and other impervious surfaces, and the construction of storm sewers which collect runoff and usually discharge it directly into stream channels. Impervious surfaces and storm drains increase the frequency of floods and the size of flood peaks. The volume of runoff from new urban areas is far greater than under pre-existing conditions. Most floods in Merced are produced by extended periods of rainfall during the winter months. Dam failure is another source of flooding which was addressed separately in Section 11.3.3 of this chapter.

There are currently two plans that should reduce the risk of flooding within the City's planning area. These are the Merced County Streams Group Project Plan and the Merced County Critical Area Flooding and Drainage Plan. The Merced County Streams Group Project was approved by Congress in 1970. The project was re-evaluated by the U.S. Corps of Engineers in 1980 and some construction has been completed, but the entire project currently lacks local cost-sharing commitments. The project, as currently defined, entails construction of two new detention dams (Castle on Canal Creek and Haystack Mountain on Black Rascal Creek), the enlargement and modification of the Bear Creek

detention dam, and construction and modification of 32 miles of levees and channels on the Bear Creek Stream Group (Fahrens, Black Rascal, Cottonwood, and Bear Creeks, Black Rascal Slough, and El Capitan Canal). Castle Dam and a diversion structure from MID's main canal has been completed to date. Approximately 24 square miles in the planning area would be removed from the 100-year or more floodplain by this project. *Figure 11.5a* illustrates the change in area covered by the 100-year floodplain that could be attributed to the construction of the project.

The Merced County Critical Area Flooding and Drainage Plan addresses the collection and disposal of surface runoff water that originates in, or passes through, a 180-square-mile area, including and surrounding the City's planning area. The study addressed both the collection and disposal of the storm water. Systems of storm drain pipes and catch basins are laid out, sized, and costed in the plan to serve the present and projected urban land uses. The City requires the construction of storm water percolation/detention basins with new development. Percolation basins are designed to collect storm water and filter it before it is absorbed into the soil and reaches groundwater tables. Detention basins are designed to temporarily collect runoff so it can be metered at acceptable rates into canals and streams. The disposal system is mainly composed of Merced Irrigation District facilities, including water distribution canals and laterals, drains, and natural channels that traverse the area.

**FEMA/CORPS
100 YEAR COMBINED
FLOODPLAIN**



SOURCE: Merced County Association of Governments

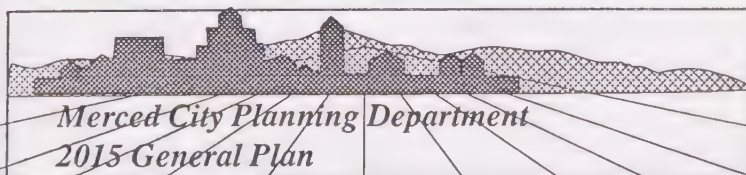
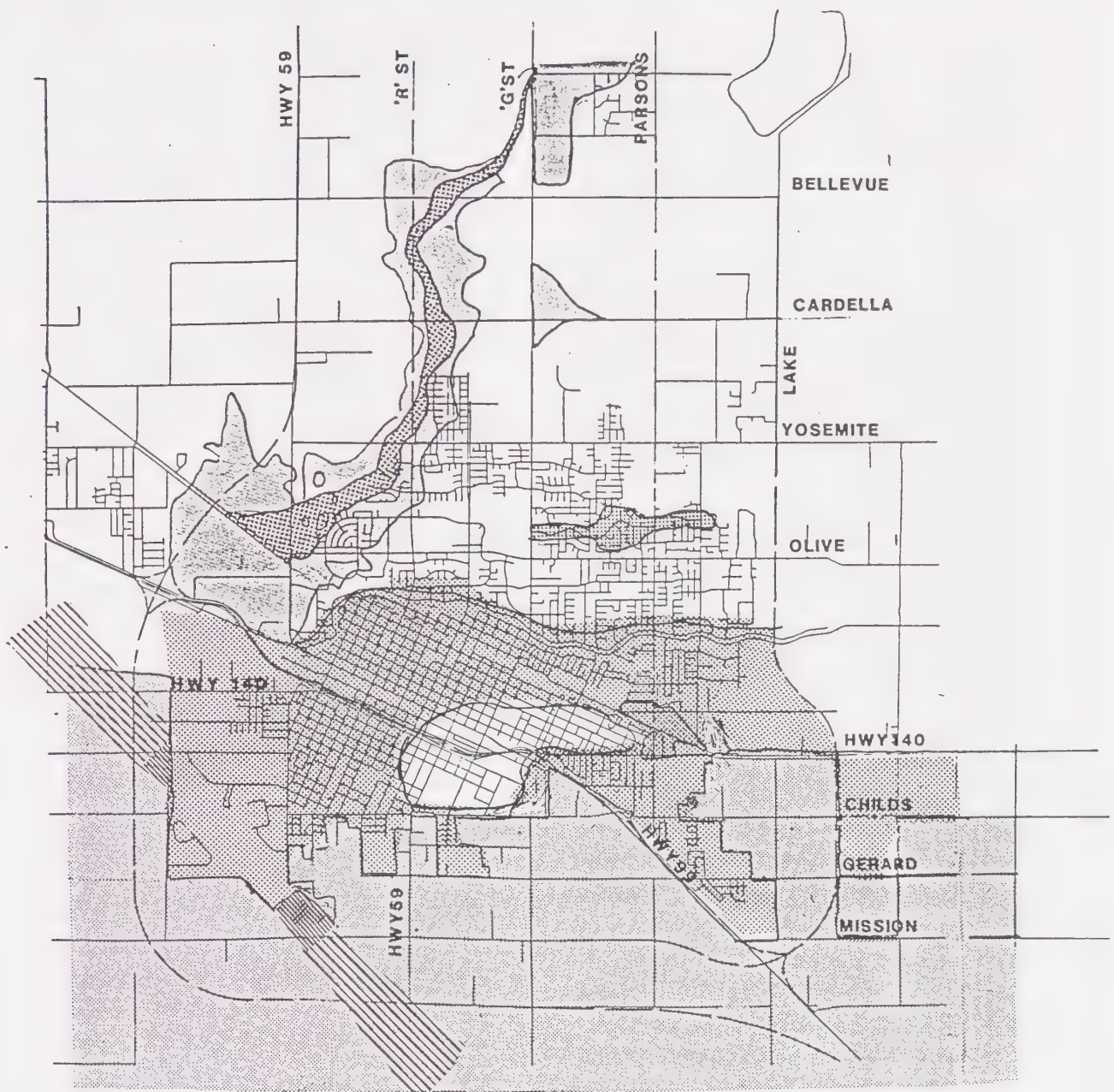






Figure 11.5a

Flood Prone Areas



-  FLOOD AREAS (1-3 ft DEPTH)
-  FLOODWAY
-  CENTRAL MERCED FLOOD PLAIN (2 ft DEPTH)

-  AIRPORT SAFETY ZONE 1
-  AIRPORT SAFETY ZONE 2

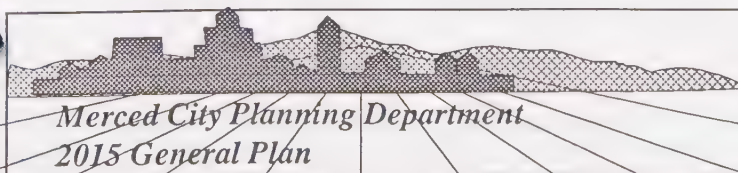


Figure 11.5b

Flood Prone Areas

When both plans are fully implemented, the resulting system should offer a fully integrated, compatible drainage and flood control facility. Until the projects are completed, federally-subsidized insurance is available in flood-prone areas of Merced. In 1991, the City's Flood Damage Prevention Ordinance was recertified as being compliant with the Federal regulations governing the National Flood Insurance Program. Should the City fail to enforce restrictions and standards, it runs the risk of losing Federal insurance monies.

Stricter evaluation of development in all flood hazard zones would strengthen the Flood Insurance Program and provide greater protection from future flooding. As an example of regulated development, certain future higher occupancy or critical facilities such as schools and hospitals, could be discouraged in floodplains and should be strictly reviewed where placement within a floodplain is necessary. Recreation areas and parks represent the most logical uses of floodways in particular.

The Merced Streams Group Project and FEMA regulations, which are embodied in the City's Flood Damage Prevention Ordinance (MMC 17.48), approach flooding from different perspectives. The Streams Group Project is designed to control flood waters. The FEMA approach is to prohibit construction in floodways and to encourage construction in low risk areas. Construction in floodplains is acceptable provided that the floors are elevated to minimize the risk of damage and the adverse consequences of putting obstacles in the way are minimized.

When the Streams Group Project is complete, most of the areas which are now identified by FEMA as flood-prone will no longer be classified that way. As a result, the cost of construction of homes and businesses will decrease. The largest benefit of the Streams Group Project is that the FEMA approach only protects new construction while the Streams project will provide flood control benefits to virtually the entire community. The most significant benefit of the Streams Group Project is the protection offered to the older homes and businesses built before the FEMA flood maps were developed.

HAZARD RESPONSE -- FLOODING

Evacuation Routes

As indicated previously, flooding could have extensive impacts upon the Merced planning area. Two particular concerns relating to flooding are the potential that evacuation from South and Central Merced to the dry areas to the north could get cut-off by rising waters on the bridges over Bear Creek, and that most of the City's emergency facilities are in the floodplain and could become inundated.

Water Supply

The ability of the City to provide potable water under such circumstances, however, seems to be good because of the City's policy of keeping the entrances to the pump facilities above the 100-year flood elevation.

11.3.5 Urban Fires & Wildland Fires

The continued growth of Merced as a whole, the increased use of hazardous materials, geographic constraints such as creeks, the condition of older buildings in downtown Merced, and the extensive use of shake shingle roofs create a wide spectrum of fire safety concerns. When planning for urban fires protection, fire risk factors and their mitigation, as well as hazard response factors must be considered.

Risk Factors and Mitigations

Urban fire risks include personal safety practices, construction materials and methods, built-in fire protection systems, siteplanning, and overall land use.

In order to mitigate the risk and impact of fire within Merced, the City has adopted the concepts of Fire Protection Master Planning (F.P.M.P.). As a system with many components, F.P.M.P. received a commitment from the City Council in 1982 to provide fire protection planning with a goal of a "fire safe community."

As a system, F.P.M.P. states that fire protection planning requires involvement of all City agencies, individuals, and organizations that have input and support community health, safety, development, and stability.

Personal Safety Practices

Merced's current number one cause of residential fires is cooking. Kitchen safety revolves mainly around an individual's safety practices. For this reason, the Fire Department has developed and is conducting several public education programs. These

programs stress emphasis on children and senior citizens who have been identified by the National Fire Protection Agency as high-risk groups for fire death and injuries.

Construction Materials, Methods and Site Planning

The Uniform Building Code (UBC) and the Uniform Fire Code (UFC) work together as companion documents to regulate building construction and related items such as the care of vacant lots and the storage of flammable liquids. Generally speaking, the UBC regulates new construction and the UFC covers the maintenance of the construction. Each year the Fire Prevention Bureau and engine companies conduct in excess of 4,000 inspections and eliminate approximately 8,000 Uniform Fire Code violations which could attribute to the cause and severity of a fire. The inspection program primarily targets the high and medium hazard occupancies identified in the "Land Use" section on the following pages. To provide effective fire prevention activities for low hazard land uses, the Fire Department conducts year-round hazard removal programs (primarily weed abatement).

Vacant Lots

Vacant lots that are overgrown with weeds or allow the buildup of refuse are a fire hazard, especially during the hot, dry summer season. In 1974, almost half of the recorded fires in Merced were grass or brush fires. In 1992, less than one-third of the 450 fires were grass or brush related.

The City of Merced currently has a weed control program which requires weed

abatement during the year. Each property within the City is served annually each spring with notice sent for removal of weeds, etc. The City Fire, Police, and Public Works Departments also pick up abandoned vehicles, and a “Spring Clean-up” conducted annually allows people to have bulky refuse picked up without charge.

Naturally, the use of built-in protection such as fire resistant materials and automatic sprinklers in all structures above that required by the Uniform Building and Fire Codes significantly reduces the risk of urban fires and may reduce the City’s reliance upon fire suppression crews.

Land Use

Merced has a variety of land use types. Many of these require tailored fire protection considerations. These land uses are included as follows:

High-Hazard Occupancies

(schools, hospitals, nursing homes, and other high life hazard or large fire potential occupancies)

Medium-Hazard Occupancies

(apartments, offices, mercantile and industrial occupancies)

Low-Hazard Occupancies

(one-, two-, or three-family dwellings and scattered small businesses)

Rural Operations

(scattered dwellings, outbuildings, vacant lots)

Each of these land use types requires somewhat different fire suppression resources (e.g., emergency medical services, hazardous materials response,

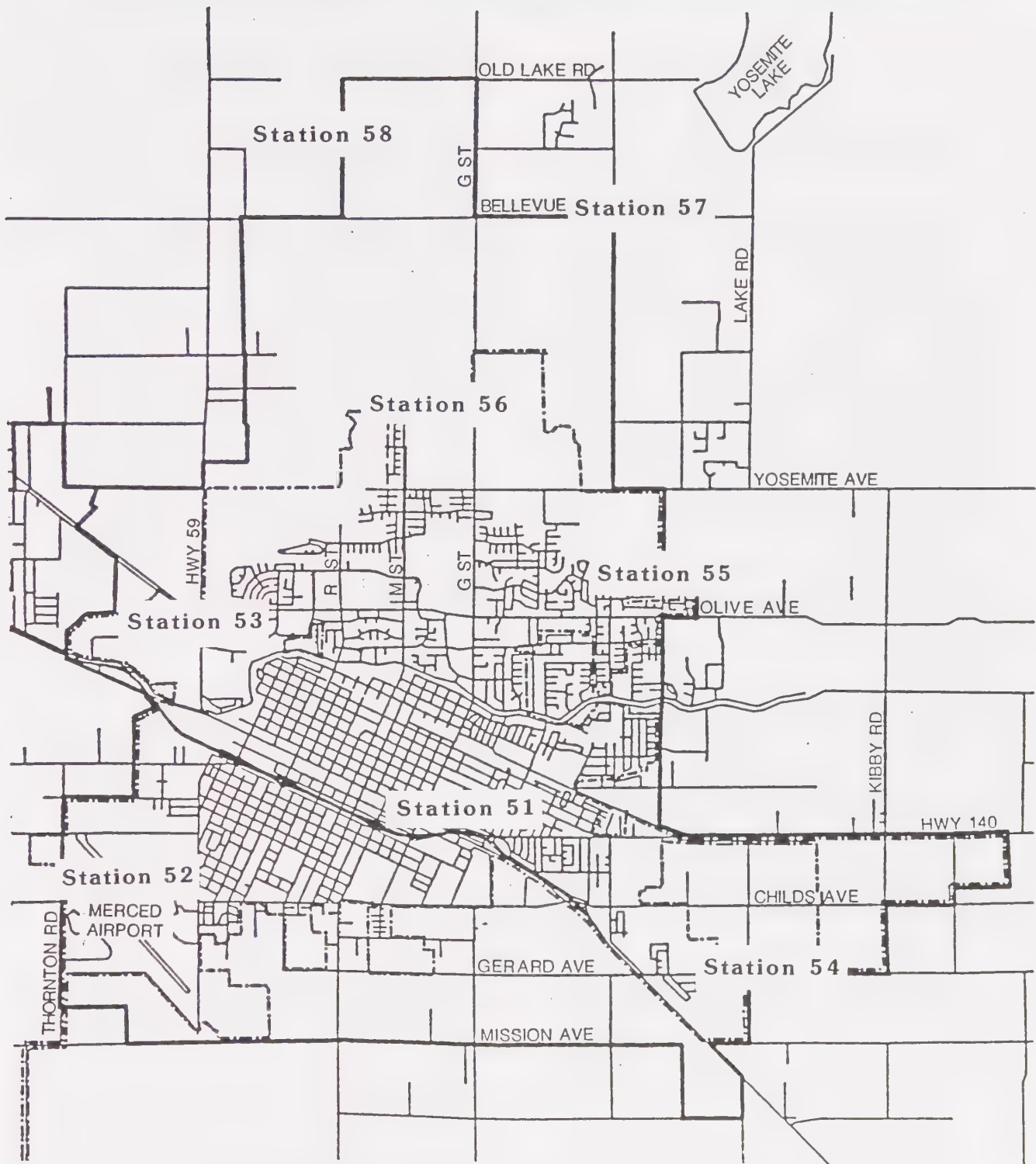
and heavy rescue). Merced’s current policy is to provide emergency response within 4 to 6 minutes and to provide adequate resources to combat fires in these occupancies. The target of this response is to place a fire unit on scene at 95 percent of incidents in five minutes. Therefore, it is important that those industries using hazardous materials, large facilities, or requiring special fire hazard considerations going into new areas of the City not currently occupied by these types of businesses be accompanied by additional fire department equipment and/or personnel.

The current response practice provides for a first-alarm assignment of two pumpers, one ladder truck, one mini-pumper, and a chief officer for all structure fires. The increased awareness and use of hazardous materials, and the need for heavy rescue services as illustrated during the Loma Prieta Earthquake, however, have led the Fire Department to develop programs to provide expanded services.

Wildland Fires

Wildland fire hazards exist in varying degrees over approximately 90 percent of Merced County, mostly outside urban areas. The Valley’s long, dry summers and extensive vegetation makes for a fire season that extends from late spring to early fall. Approximately fifty to one hundred wildland fires can occur in Merced County in any one year. Irrigated agricultural land, however, is less susceptible to wildland fires than grazing areas.

As the City has increasingly annexed large blocks of undeveloped land, the potential for wildland fires (mainly



Fire Station Locations are Approximate

SOURCE: Merced City Fire Department

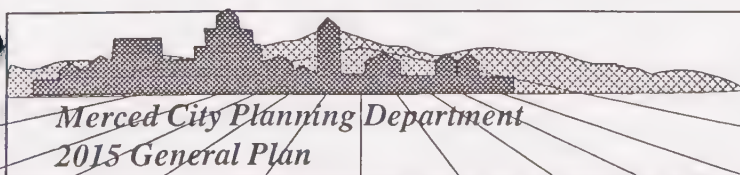


Figure 11.6

Fire Station Service Areas

grassland fires) within the City has increased. In 1993, the City Fire Department responded to 133 fires involving vegetation. Of these 133 fires, five involved parcels of 3 to 50 acres, classifying these as "wildland" fires. In addition, the City Fire Department is typically called to 4 to 5 significant grassland fires per year which occur in County fringe areas adjacent to the City limits. The Fire Department is also frequently called to provide mutual aid to the County for grassland fires in the wider Merced area due to increasingly strained fire fighting resources within the County over the last few years.

HAZARD RESPONSE --URBAN AND WILDLAND FIRES

Access

Access, as it relates to urban fires, is promoted or restricted based on three factors: (1) the geographical proximity of the proper equipment, (2) the location of physical boundaries in relationship to the station and fire, and (3) the road system. The proximity of the proper equipment is discussed in the land use portion of the "Risks Factors and Mitigations" section of this chapter. The location of the physical boundaries in relationship to the station and fire is addressed in a station location plan (see **Figure 11.6**) that is found in the "Fire Department Service Level Report." The main components of the plan include the addition of Station No. 55 in Northeast Merced and the relocation of Station No. 51 to East 16th Street. The plan allows for the distribution of resources to provide protection for areas geographically separated by physical boundaries, such as creeks and railways, and also protects against the elimination

of all of the fire response resources by an earthquake, flood, or other disaster.

A well-defined system of local streets and roads is also important to provide emergency access for fire fighting equipment and evacuation routes for the public. The circulation system is a critical part of the Fire Department's ability to maintain a desired response time of four to six minutes to any area of the City. To provide adequate access and room for fire fighting operations, the National Fire Protection Association recommends minimum roadway widths of 28 feet with parking on one side only and 36 feet if parking is allowed on both sides. Provision of bridges over creeks and grade separated railroad crossings are also critical elements in meeting response times.

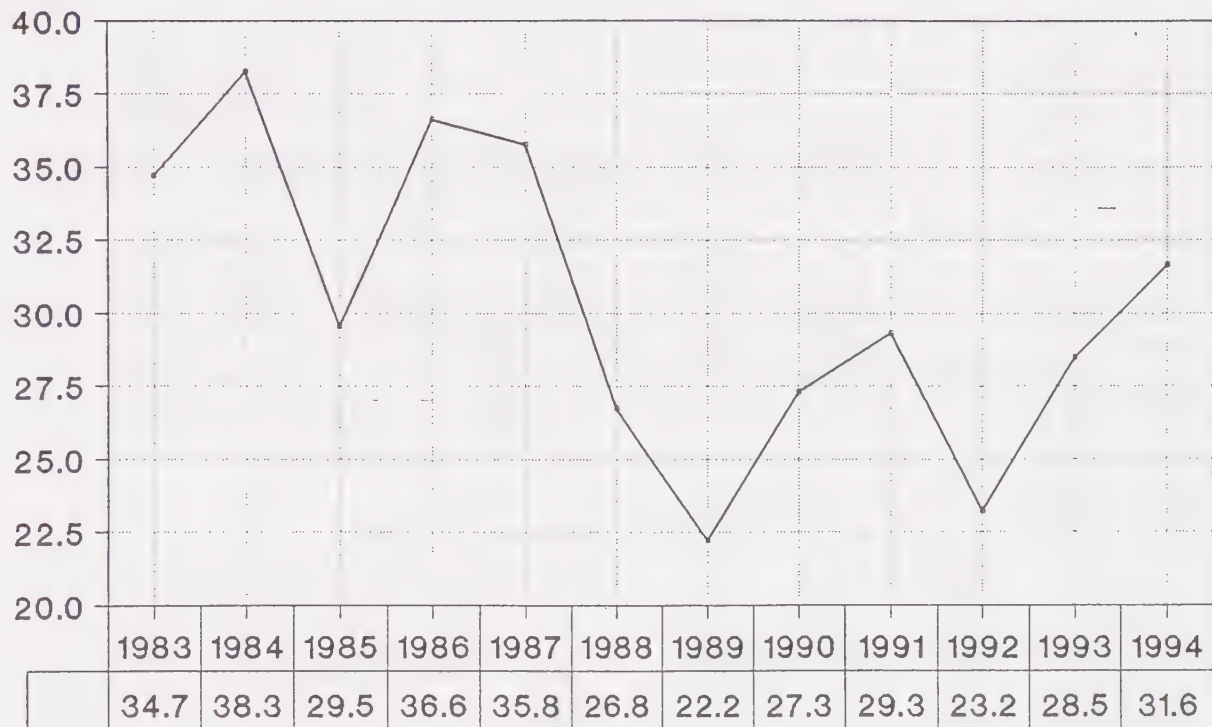
The access system will also serve as an evacuation route for the population in the event of a hazardous materials incident, flood, or other disaster.

Water Supply

The ability to provide an adequate water supply during peak load hours is critical for fire fighting operations. This is especially important in large commercial and industrial buildings. The water supply system currently consists of four elevated storage tanks with a combined storage capacity of approximately 1.4 million gallons, and 18 wells and 14 pumping stations equipped with variable speed pumps that attempt to maintain 45 to 50 psi (pounds per square inch) nominal water pressure. The City is required to meet State Health pressure requirements, which call for a minimum of 20 psi at every service connection under the annual peak hour condition and

Peak Day Water Production

Million gallons



SOURCE: Merced City Engineering Division

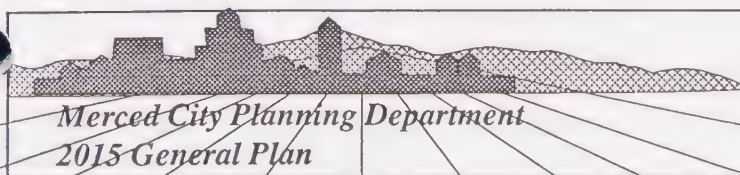


Figure 11.7

Merced Peak Day Water Production

maintaining the annual average day demand plus fire flow. *Figure 11.7* illustrates the maximum peak day water demand for the last several years. Through the Capital Improvement Program, the City plans to increase water wells to match the requirements of development, generally one well per square mile.

The importance of expanding the water supply and distribution system increases greatly as the City expands. In addition to providing water supplies for fire suppression forces, the effectiveness of automatic fire sprinkler systems is dependent upon the water service. Fire sprinkler systems are designed based on pressures and water flow from the public water main. If the minimum required pressure and available water supply are not maintained, the sprinkler system will not operate properly. The City maintains a computer model to assist in the analysis of water system changes, so we can add production facilities in the most appropriate locations, identify system improvements needed to support specific development projects, and improve maintenance and reconstruction techniques.



City of Merced Fire Department

As of July 1994, the City of Merced Fire Department's fire control equipment consisted of four first-line engine companies (carry and pump water), one ladder company (105 feet), three reserve

engines, one reserve ladder truck (85 feet), and several miscellaneous vehicles.

The Fire Department personnel, as of September 1994, totals 50 employees, with 43 assigned on a three-platoon, rotating work schedule, which provides city coverage 24 hours a day, seven days a week.

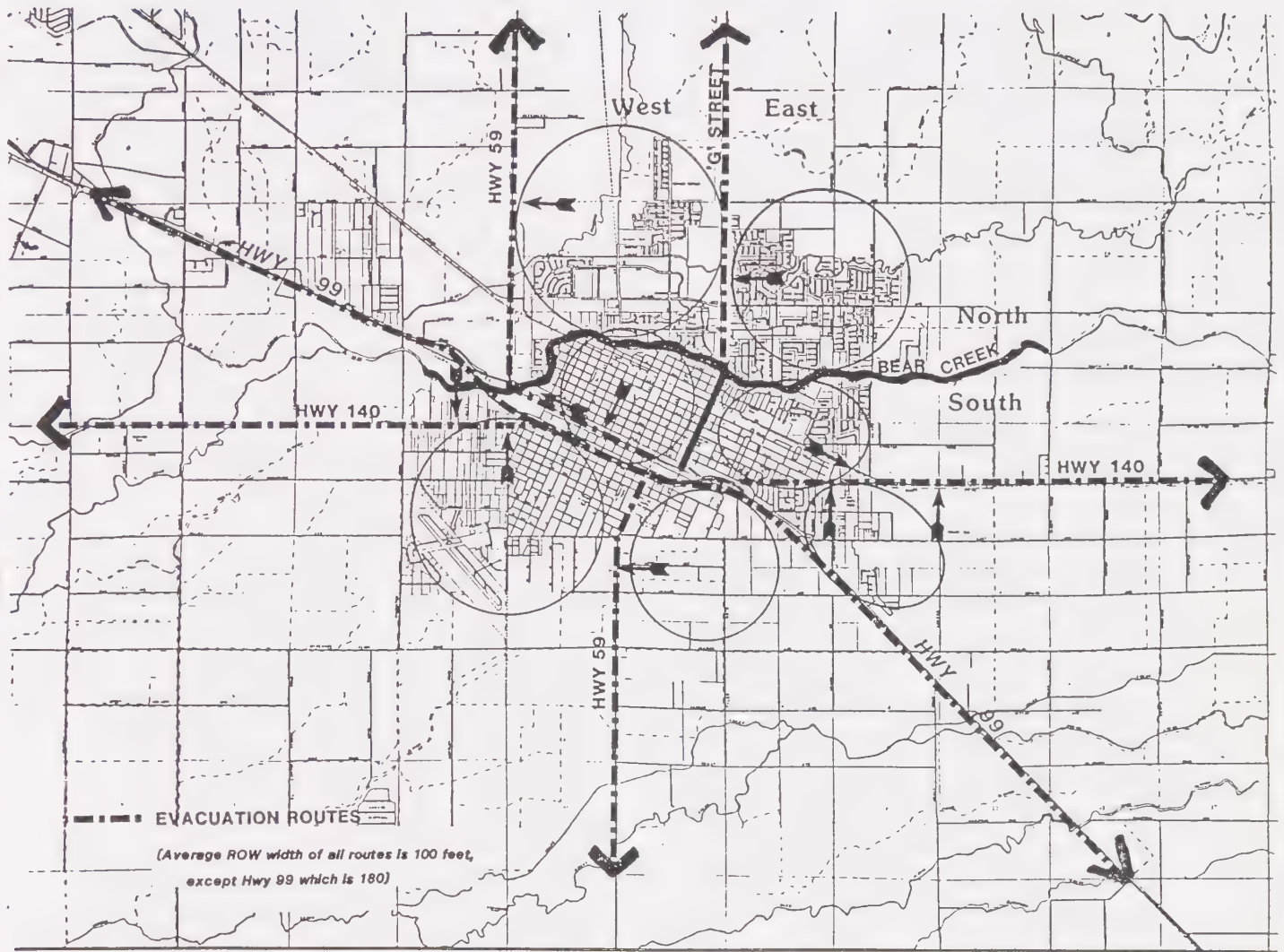
The City of Merced Fire Department has a mutual aid agreement with the Atwater and County Fire Departments. This agreement enables the different jurisdictions to request aid from another when necessary.

At present, the Merced Fire Department currently holds a Class II ISO rating. This rating schedule is used by the Insurance Service Office (ISO) to establish insurance rates for commercial and residential properties.

Evacuation Routes

Evacuation routes have been discussed for particular hazards under each of the previous hazard response sections, but some general items must be noted. Earthquakes, fires, and flooding can all necessitate evacuation. However, it is not possible to know with certainty how many people will actually need to be evacuated in any given situation. Similarly, the rate at which people will evacuate and their specific routes of travel and ultimate destinations are subject to wide variation. Therefore, in the case of an emergency, it is necessary to evaluate each situation on an individual basis and respond accordingly.

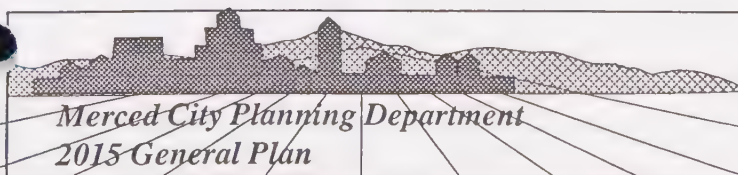
The Merced City Emergency Plan addresses various emergency situations and designates the Police Chief as



SOURCE: Merced Emergency Plan

Figure 11.8

Evacuation Routes



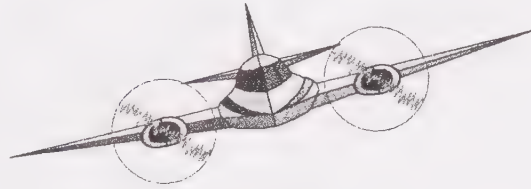
Evacuation Coordinator (in the case of a wider emergency, the County Sheriff is designated). At the time of an emergency, the Evacuation Coordinator will evaluate the situation, access various routes (many of which will have been planned out in advance), determine the best routes, alert the public via radio and/or TV of evacuation routes and procedures, and coordinate the evacuation with state and local officials, such as the Highway Patrol, Caltrans, etc. Evacuation routes for most emergencies can be seen in *Figure 11.8*.

HAZARD RESPONSE--WILDLAND FIRES

The City's response to fighting wildland fires is much the same as the response to urban fires. Typically, the Fire Department will dispatch one truck to such fires and evaluate whether there is a need for additional apparatus, especially if there is a threat to nearby structures. The Fire Department is also in the process of redesigning their fire apparatus (adding larger water tanks, adding four-wheel drive, etc.) in order to better combat grassland fires, where water supply can be limited and off-road response may be necessary. Most wildland fires outside the City limits are responded to by Merced County or the California Department of Forestry and Fire Protection (CDF) although the City Fire Department is often called upon to provide mutual aid when needed.

In order to prevent wildland fires before they start, the City's weed abatement program requires that vegetation on vacant lots be plowed under or mowed down if it is not irrigated agricultural land. The Police, Fire, and Inspection

Services Departments combine to make sure that abandoned vehicles or buildings (potential fire hazards) are removed.



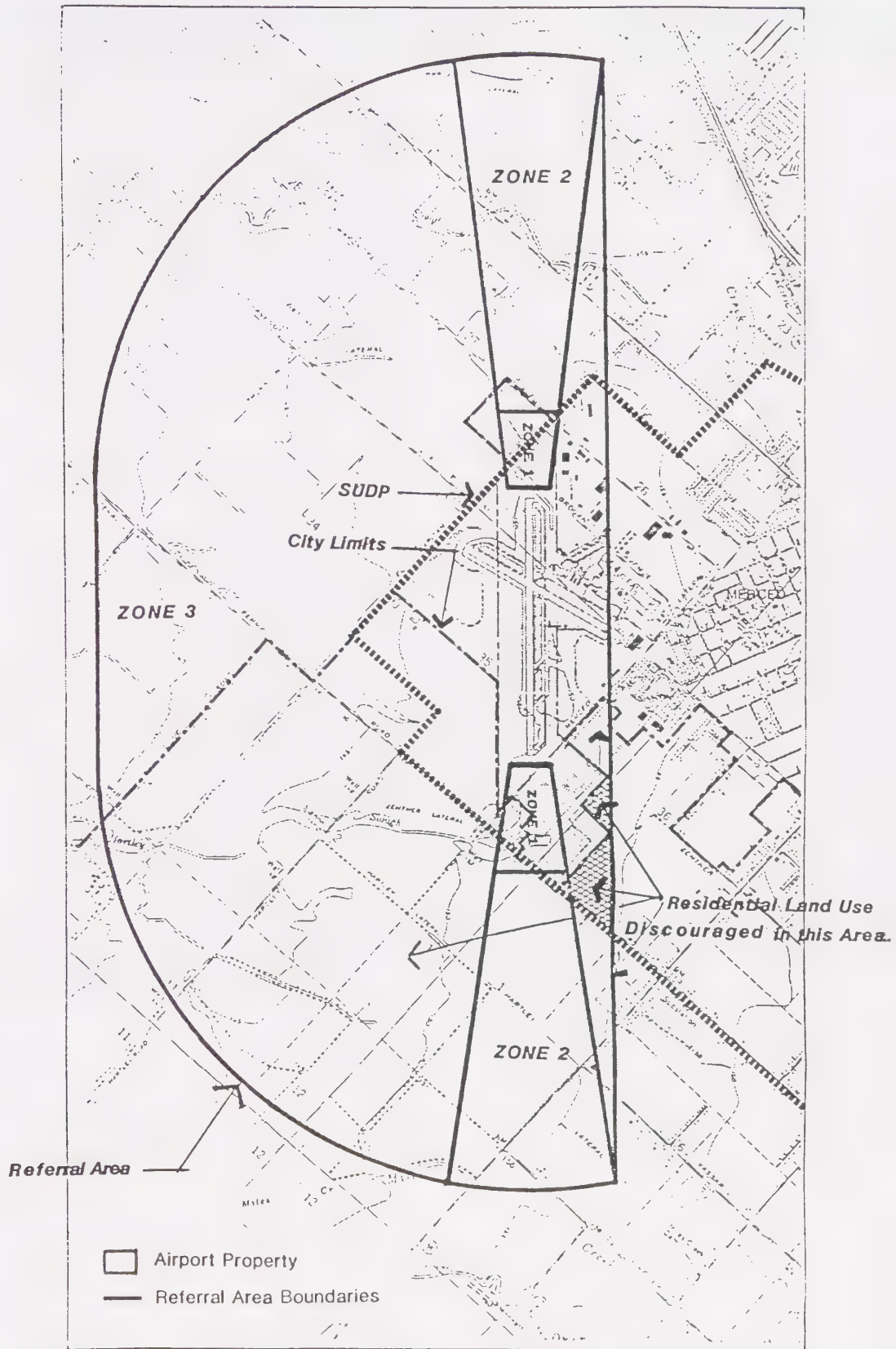
11.3.6 Airport Safety Zones

The continued operation of the Merced Municipal Airport involves various hazards both above and on the ground. These include hazards to flight (physical obstructions in the airspace or land use characteristics which affect flight safety) and safety on the ground (damage due to an aircraft accident).

Because of the City's distance from Castle Air Force Base, the City while affected by noise from Castle aircraft does not fall within Castle's safety clear zones. The military discontinued operations at Castle in 1995 and civilian aircraft re-use is unknown at this time.

Hazards to Flight

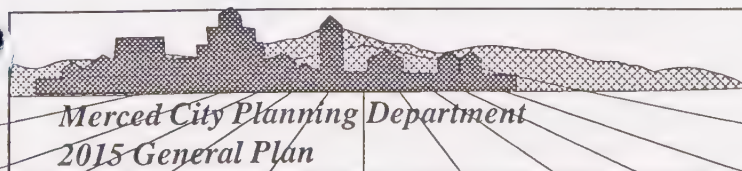
Potential hazards to flight include physical obstructions and other land use characteristics that can affect flight safety, which include: visual hazards such as distracting lights, glare, and sources of smoke; electronic interference with aircraft instruments or radio communications; and uses which may attract flocks of birds. In order to safeguard an airport's long-term usability, preventing encroachment of objects into the surrounding airspace is imperative.



SOURCE: Merced Municipal Airport Master Plan

Figure 11.9

Merced Municipal Airport
Safety Zones



HAZARD RESPONSE--FLIGHT SAFETY

Standards for the maximum allowable height of structures and other objects around airports are set forth in Federal Aviation Regulations. These standards reflect, with a margin of safety, the lowest altitudes at which an aircraft may be flown while approaching or departing an airport. The most critical area with regard to flight hazards are within the approaches to the airport's runway. These approaches are defined by imaginary surfaces which slope upwards from a point near the end of the runway. These approaches for Merced Municipal Airport are illustrated in the Merced Municipal Airport Master Plan and generally correspond to the zones shown in *Figure 11.9*.

Safety on the Ground

Accident probabilities increase with closer proximity to the runway ends, in large part because of the greater concentration of aircraft over a given area. The risk is also greater because at low altitudes a pilot has little choice over where to make an emergency landing. Greater restrictions are thus advisable within the approach protection zones and approach zones than in other areas surrounding an airport (*Figure 11.9*).

The Federal Aviation Administration (FAA) suggests that all runway protection zone (Zone 1) property should ideally be airport owned and free of structures. Within approach zones (Zone 2), it is desirable to have as much open land as possible to minimize the number of people occupying an area. Where development occurs, clustering maximizes the amount of open land available

for emergency landings; and a maximum net occupancy level can be set to limit the number of people at risk if a crash should occur. Within traffic pattern areas (Zone 3), aircraft will normally be at altitudes high enough to allow pilots a choice of where to put down in an emergency landing. Therefore, evenly distributed open spaces usable for emergency landing sites are adequate safety measures in these areas.

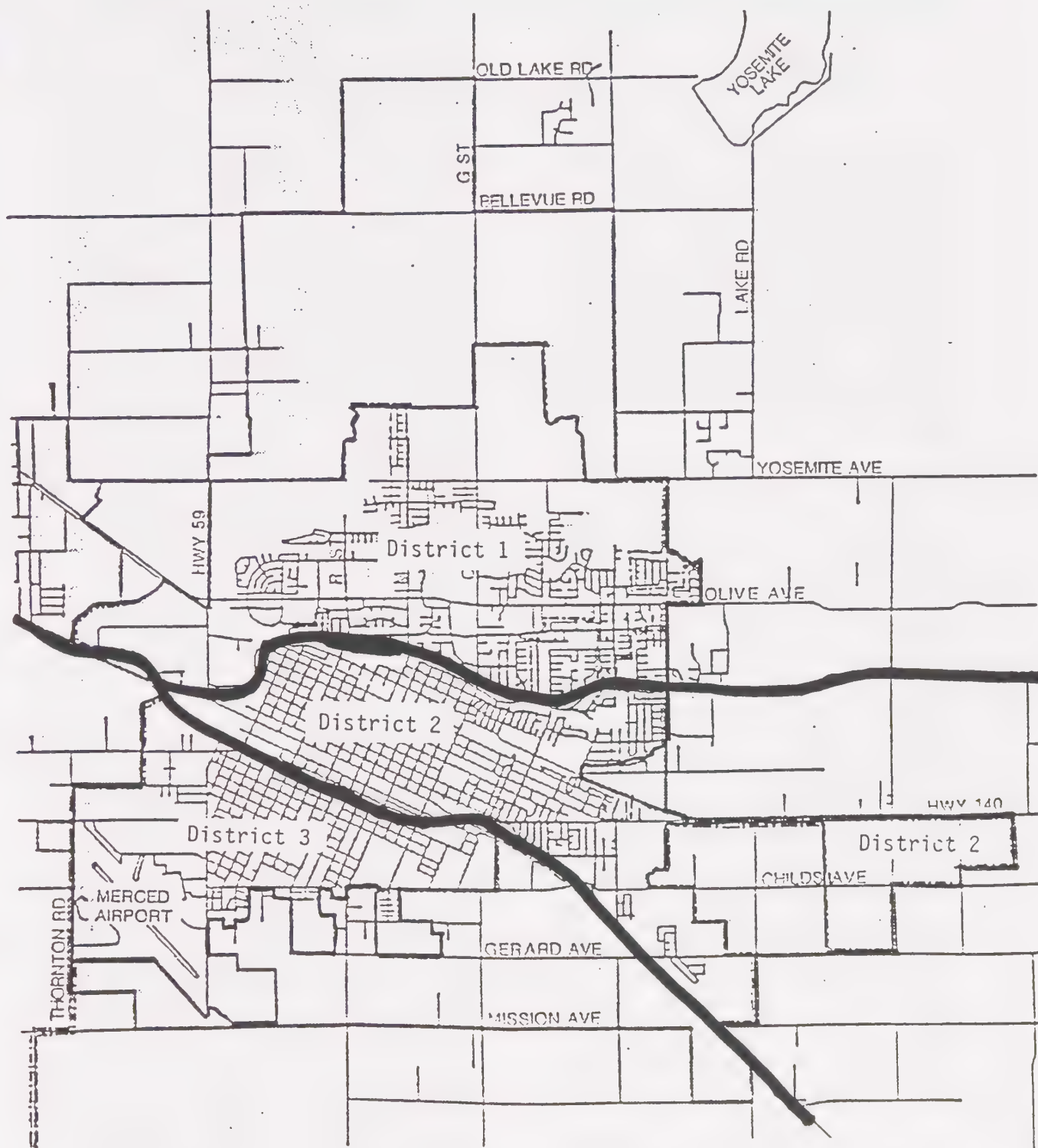
HAZARD RESPONSE--AIRPORT GROUND SAFETY

Merced's Municipal Airport Master Plan calls for the acquisition of property and/or approach protection easements in Zone 1 areas, a maximum occupancy level for commercial/industrial uses in Zone 2, and the retention of existing agricultural uses and the discouragement of residential land uses in the entire referral area (Zones 1, 2, and 3).



11.3.7 Crime & Policing

Police officers are among the most visible representatives of City government and largely influence public attitude toward the quality of City services. They are responsible for maintaining the quality of life by protecting people and property, promoting community order through crime prevention and educational programs, apprehending and prosecuting criminals, and regulating non-criminal activities.



SOURCE: Merced City Police Department

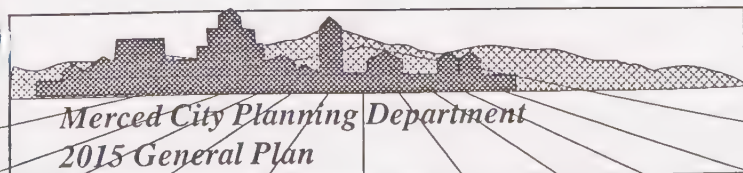


Figure 11.10

Police Districts

It is difficult to measure crime's effect on society, but clearly crime is a burden. Crime affects people in many different ways. People who fear crime cannot move around as freely. Crime victims suffer physically and emotionally and are less productive at work. Crime is extremely expensive--causing insurance costs to rise, making consumer goods more expensive, and making the public pay for maintaining public police departments and jails, hiring private security, and upholding the entire judicial system.

HAZARD RESPONSE--CRIME

There are many different causes of crime, requiring many different approaches. Continuing crime prevention programs in Merced include Neighborhood Watch, educational outreach, the VIP volunteer program, and data tracking to identify high-crime areas, traffic problems, and service requirements of various neighborhoods. Merced is divided into three police districts, each with its own police facility and officers (*Figure 11.10*). District One serves the area north of Bear Creek, District Two serves the area between Highway 99 to the south and Bear Creek to the north, and District Three serves the area south of Highway 99. In 1994, the Merced Police Department has 82 sworn officers, 33 non-sworn officer positions, and 20 unpaid volunteers.

The primary reason for the three districts is to place police officers closer to the neighborhoods and citizens they serve. Close interaction and collaboration between officers and citizens is the best and most successful way to a healthy community. The Police Department feels

that this "community policing" concept will be successful in combating a growing incidence of crime, violence, and disorder in the City. The Department has also been actively promoting new ordinances to combat graffiti, aggressive panhandling, loitering with the intent to sell drugs, and the maintenance of property in a state that attracts or harbors criminal activity. Citizens councils will also be established in each district to meet regularly with area commanders to develop collaborative strategies and outcomes. Bicycle patrols are also now beginning to be used in order to bring police officers "closer" to those they are assigned to protect.

11.3.8 Hazardous Materials & Waste

California's economic well-being and quality of life depend in many ways on the production and use of manufactured goods. However, manufacturing often requires large volumes of chemicals and generates hazardous waste. Hazardous waste ranges from familiar substances, such as solvents and waste oil, to sophisticated compounds such as polychlorinated biphenyls and dioxins. More than 10 million tons of hazardous waste are generated in California each year. In 1986, 4.3 tons were generated in Merced County alone.

In 1986, the California legislature passed legislation requiring each county to develop a hazardous waste management plan and requiring all cities to either adopt the County plan by reference in their general plans or adopt their own plan. In January 1989, the Merced County Board of Supervisors and

Merced City Council adopted the Merced County Hazardous Waste Management Plan. The plan addresses waste reduction and onsite treatment, the siting of off-site hazardous waste facilities, public and industry education, transportation of hazardous wastes, cleanup of contaminated sites, and emergency response procedures. The plan also recommends a series of goals, policies, and implementation actions to deal with hazardous waste throughout the County.

The Merced County Environmental Health Division, which oversees the enforcement of the plan, maintains an up-to-date list of known hazardous waste sites within the County. In 1991, there were 70 known hazardous waste sites within the City of Merced. Cleanup of sites that exceed State standards for contamination by toxic materials is required prior to development or reuse of the site. The cleanup process is monitored by the State Department of Health Services.

HAZARD RESPONSE--HAZARDOUS MATERIALS AND WASTE

The Merced City Fire Department and Environmental Health Division work with the County to prevent the uncontrolled release of toxic substances into the environment by conducting inspections of toxic materials facilities, enforcing storage and use requirements, and educating local businesses on proper storage and handling of hazardous materials. The Merced City Fire Department responds to uncontrolled releases within the City limits, identifies the category of chemicals involved, contains the spill if possible, oversees

cleanup activities, and makes sure that the site is safe to be occupied again.

The City's Emergency Plan and the County Hazardous Waste Management Plan both deal with detailed emergency response procedures under various conditions for hazardous materials spills. The City also works with the State Department of Health Services to establish cleanup plans and to monitor the cleanup of known hazardous waste sites within the City.

11.4 TECHNICAL DATA

11.4.1 Seismic Safety

"Earthquakes are a part of California's heritage and we all must learn to live with them, but the dangers involved are more a result of man's ignorance than of nature's destructive force."--Robert Iacopi

Living in Merced, chances are each one of us will be affected in some way by seismic activity. How you and I will fare both economically and physically each time we experience an earthquake depends on what we as individuals do now to prepare for it, how lucky we are (how big the earthquake is), and (unfortunately) what our neighbors, our employers, and the businesses we patronize have done to fortify their buildings for such an incident.

In the Loma Prieta Earthquake (1989), much of the personal economic hardship realized may have been avoided if the individuals affected had properly prepared for such an event. Most of the deaths, however, were beyond the scope of personal preparedness. In Santa Cruz, several died when adjacent buildings collapsed onto their buildings. In San Francisco, a double-decked freeway collapsed killing many commuters.

An earthquake is a perceptible trembling to violent shaking of the ground produced by the sudden displacement of rocks below the earth's surface. Earthquake activity can include severe ground settling, dam failure, and landslides, but most people equate earthquakes with the movement of the earth along a fault.

"We were all aware of the problem of these buildings, and we worked on various solutions, said...a City Planner. But years went by and we ran out of time...Seismic safety never galvanized this community."

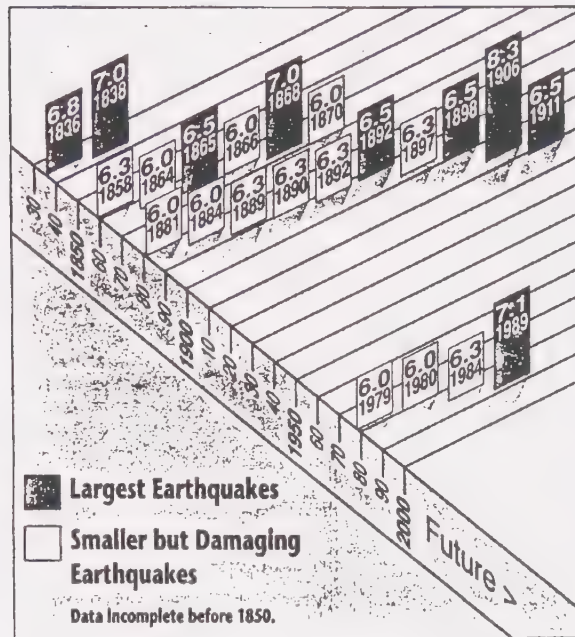
*The San Francisco Chronicle
November 27, 1989*

The State of California has a long history of seismic activity. Faulting and associated earthquakes have played an active role in the development of California's landscape through geologic time. The earliest known account of seismic activity during recorded history dates back to the late 1700's. In 1769, the expedition of Gaspar de Portola was violently shaken by a large earthquake while camped on the Santa Ana River near the present town of Olive. The heavy shaking reportedly threw the river out of its channel, and many men and horses were knocked to the ground.

California receives thousands of shocks each year, and of these approximately 500 are large enough to be felt by many people. Many areas seem to experience "cycles" of earthquakes where large quakes may not be felt for a matter of time, and then several may occur in a relatively short period of time. In the greater Bay Area, for example, where fault activity is frequent enough to reveal a possible cycle, there were 18 medium to large earthquakes between 1836 and 1911, no medium to large quakes from 1911 to 1979, and in the 16 years since 1979, four medium to large quakes have occurred (*Figure 11.11*).

Figure 11.11

Bay Area Earthquake Cycle



Source: "The Next Big Earthquake in the Bay Area May Come Sooner Than You Think"

The amount of damage to structures from an earthquake is determined by several factors: (1) distance from the earthquake epicenter; (2) nature of the ground (i.e., buildings of essentially equivalent construction will be more severely damaged if they are on filled or unconsolidated ground with a water table within 50 feet of the surface; (3) type of construction (e.g., precast concrete, unreinforced masonry, reinforced concrete frame, and older types of construction along with inflexible pipes and tubing generally are more severely damaged by earth shaking); and, (4) the duration of the shaking.

In the following pages, we will briefly analyze the relationship of the Merced Planning area to these four criteria.

The Distance from the Epicenter

An epicenter is the point directly above the segment of a fault that shifts in an earthquake. It can occur anywhere along a fault. In those areas immediately surrounding the fault or the epicenter, surface rupture can be a problem; however, Merced is not located on any known faults.



SOURCE: "Geomorphic Provinces and Some Principal Faults of California,"
California Department of Conservation, Division of Mines and Geology

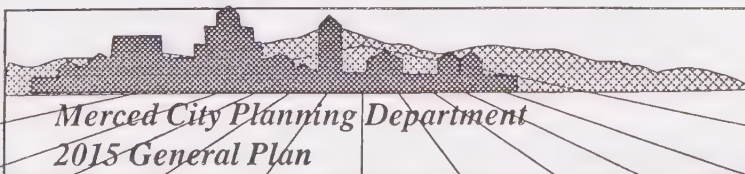


Figure 11.12
California Faults

There are hundreds of identified earthquake faults transversing the State. None of these are located specifically within Merced's planning area; however, a number of faults that run through the mountains to our south, east, and west have shaken Merced in the past. The nearest faults of major historical significance are the San Andreas fault, 58 miles to the west; the Hayward and Calaveras faults to the northwest; and the White Wolf, Garlock, and Sierra faults to the south. These seem to be the most likely to shake Merced again in the near future.

Merced is approximately 80 miles from the segment of the San Andreas fault which is believed to have a 20 percent chance of a major earthquake in the next 30 years. In 1857, this segment produced an 8.25 quake. The nearest known faults to the planning area are the Ortigalita fault that runs under San Luis Reservoir and Bear Mountain fault which runs under Lake McClure (*Figure 11.12*). These have not been historically significant in relationship to the region as a whole, but they naturally have the possibility of severely impacting the planning area.

The Nature of the Ground

The nature of the ground can have two basic affects upon the damage that may occur in an earthquake. It may dampen or accelerate the shaking, and it can turn the upper portion of the soil to a liquid-like state while the soils beneath are compacted.

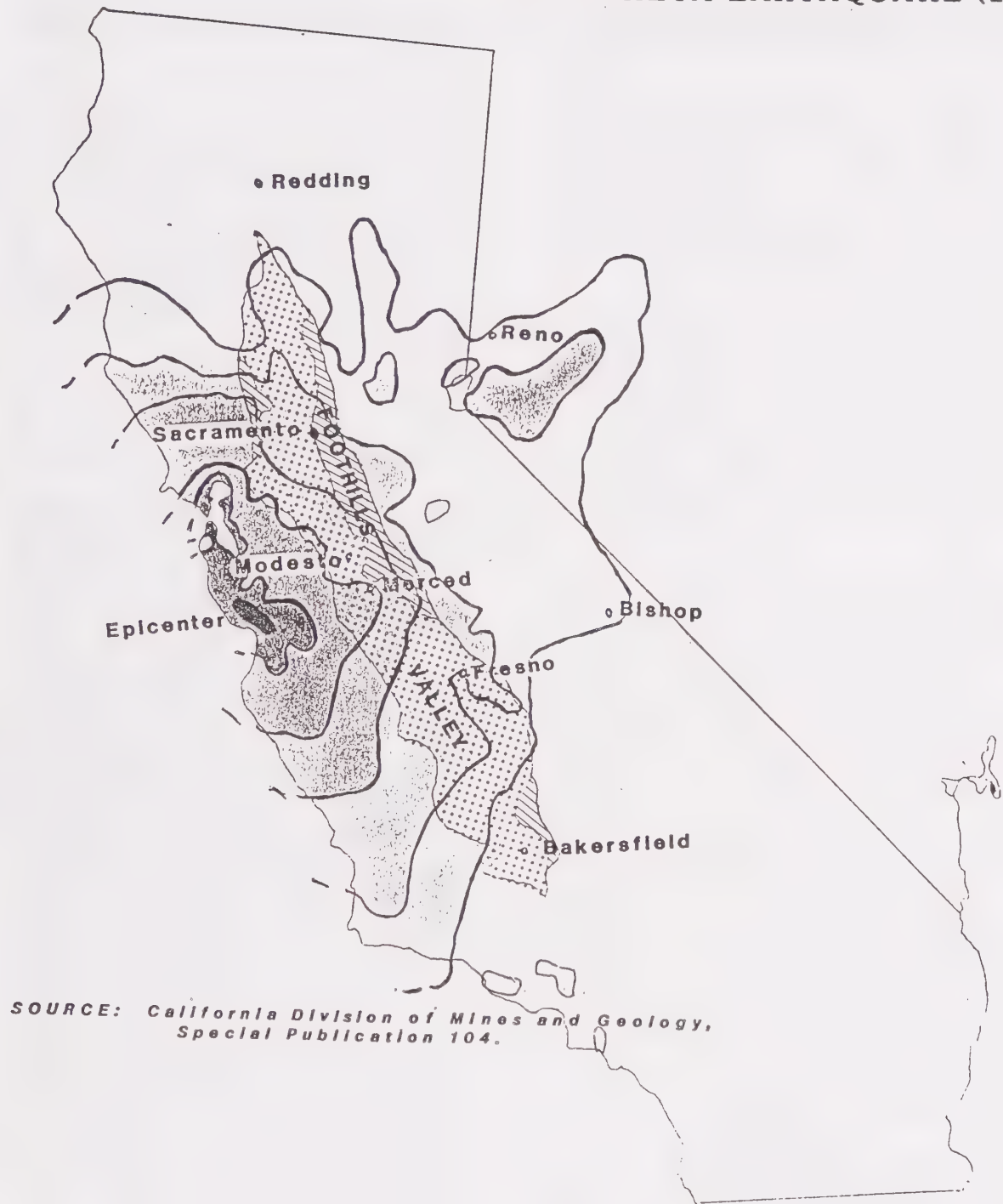
"City leaders and building owners knew of the dangers in their turn-of-the-century brick buildings for years, but chose for a myriad of reasons not to make them safer; and they made their decision even though the buildings sat on an old river bed that was certain to increase the impact of a quake."

*The San Francisco Chronicle
November 27, 1989*

Figures 11.13 through 11.15 show how the intensity of the shaking changes as the shockwaves move from soil to unconsolidated soil to rock. Notice, for example, *Figure 11.13*. The Loma Prieta Earthquake created damage (Level 5) on the San Joaquin Valley floor 52 miles from the epicenter, was dampened to Level 4 at the Sierra-Nevada foothills 78 miles from the epicenter, suddenly died down to Levels 2 and 3 where it could only be detected by instruments or felt in a quiet room abruptly at the Sierra-Nevada mountains 86 miles from the epicenter, and quickly picked up to Level 4 again on the loose soil in the Carson Sink Basin east of Reno up to 221 miles away. This same phenomenon also occurs on a smaller scale. During the same quake, shaking was three to four times stronger on the loose Marina District soil than the bedrock at Fort Mason just a few blocks to the east.

The soils of the Valley floor on which Merced stands are somewhat similar to the Carson Sink Basin in Nevada and the Marina District in that they are sediments. The soils throughout the valley have been built up over the course of time by repeated flooding and shifts in the course of streams; each time leaving

LOMA PRIETA EARTHQUAKE (1989)



SOURCE: California Division of Mines and Geology, Special Publication 104.

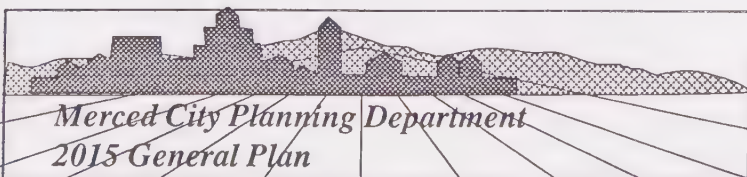


Figure 11.13
Earthquake Intensity
Loma Prieta Earthquake (1989)

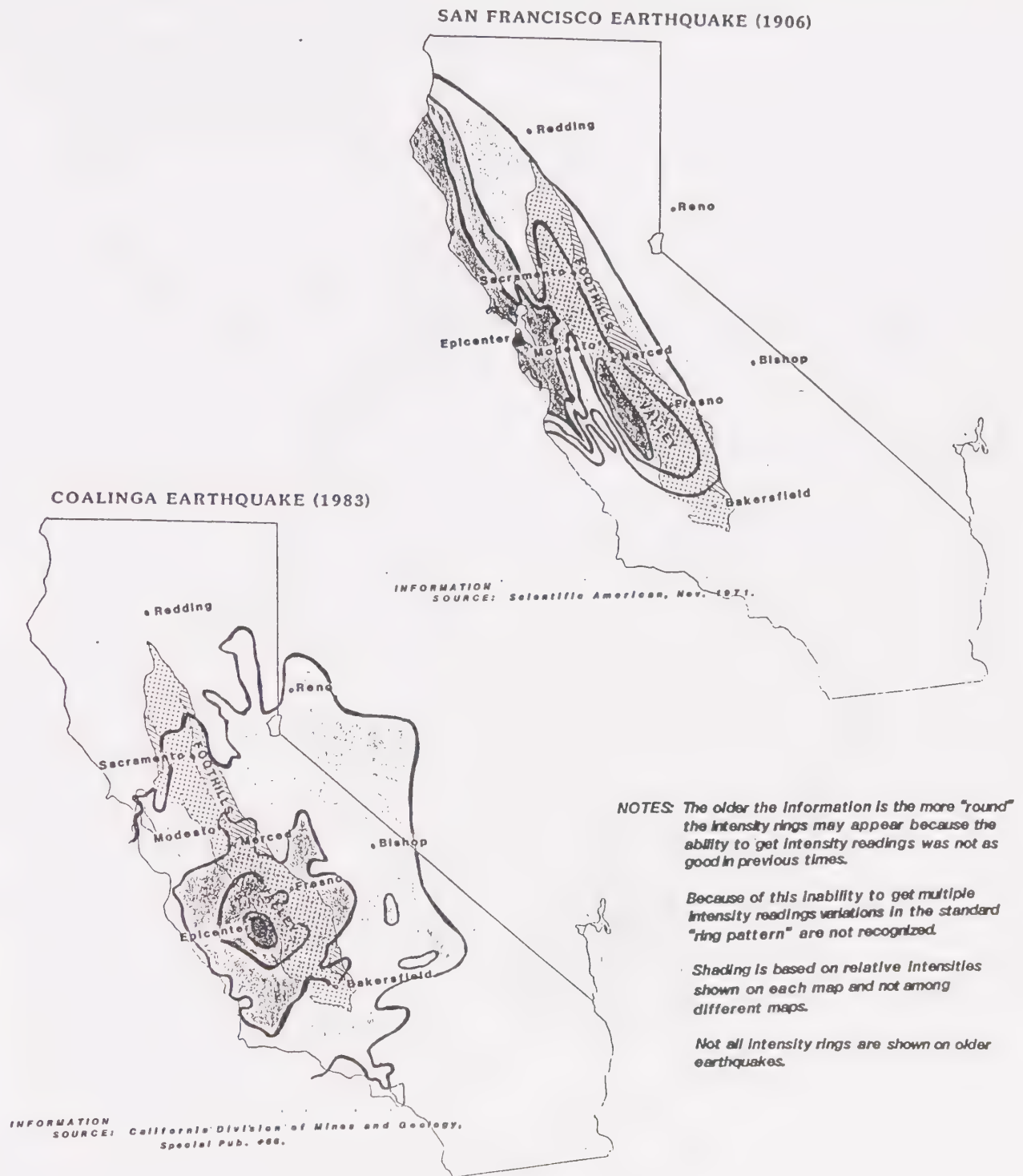


Figure 11.14

Earthquake Intensity

San Francisco Earthquake (1906) &
Coalinga Earthquake (1983)



VACAVILLE EARTHQUAKE (1892)



OWENS VALLEY EARTHQUAKE (1872)



INFORMATION SOURCE: California Division of Mines and Geology, California Geology, April 1987.

NOTES: The older the information is the more "round" the intensity rings may appear because the ability to get intensity readings was not as good in previous times.

Because of this inability to get multiple intensity readings variations in the standard "ring pattern" are not recognized.

Shading is based on relative intensities shown on each map and not among different maps.

Not all intensity rings are shown on older earthquakes.

INFORMATION SOURCE: California Division of Mines and Geology, Bulletin 198.

Figure 11.15

Earthquake Intensity

Vacaville Earthquake (1892) & Owens Valley Earthquake (1872)



a layer of sand, gravel, clay, and organic debris. The resulting soils can “carry” the shockwaves much further than would normally be expected on firmer ground or rock.

As mentioned previously, the nature of the ground many also create a situation in an earthquake where the ground compacts and liquefies. A great deal of soil settlement and liquefaction can also result from seismic ground shaking if the sediments compacted during the earthquake are water saturated. The water from the voids between the soil particles can be forced to the ground surface where it emerges in the form of mud spouts or sand boils. If the solid liquefies in this manner (liquefaction), it loses its supporting capacity causing buildings to sink, tip over, or settle into the ground. These two ground conditions are covered in more detail in the “Ground Failure” Section (11.3.2).

The Duration of the Shaking

Earthquake magnitude may be measured in terms of both Richter and Mercalli scales. The Richter scale is a function of the energy expended in an earthquake and is based on logarithmic (Base 10) measurements. This means, for example, that an earthquake of 6 on the Richter scale expends 10 times the energy of an earthquake measured at 5. The Mercalli scale, however, measures the earthquakes affect on humans and real property (see *Figure 11.16*).

The brief chart of selected earthquakes to rock Merced in relatively recent times (following) may give us some perspective on how Merced is likely to experience future quakes. It is likely, however, that were the same earthquakes to occur in

the future, their impacts could be much different because of the greater number of people living in the area and the natural aging and deterioration of buildings.

OWENS VALLEY EARTHQUAKE (1872)

- ◇ 8.25 magnitude (estimated)
- ◇ 135 miles south, southeast of Merced
- ◇ general alarm, displacement of chimneys and cracking of walls

ARVIN-TEHACHAPI EARTHQUAKE (1952)

- ◇ 7.7 magnitude
- ◇ 200 miles south of Merced
- ◇ local residents suffered little more than fright, cracked plaster on buildings, and smashed dishes

OROVILLE EARTHQUAKE (1975)

- ◇ 6.5 magnitude
- ◇ 250 miles north of Merced
- ◇ felt by local residents

COALINGA EARTHQUAKE (1983)

- ◇ 6.5 magnitude
- ◇ 78 miles south of Merced
- ◇ frightened many residents; no reports of serious damage

LOMA PRIETA EARTHQUAKE (1989)

- ◇ 7.1 magnitude
- ◇ 80 miles southwest of Merced
- ◇ rocked grocery store shelves, caused electric lines to touch setting off small electrical outages, and caused a fire at the Tioga Hotel, a home fire, and a gas line rupture on 25th Street

Earthquake Magnitude

Richter Magnitude	Approximate Energy	Expected Mercalli Maximum Intensity*
2	13 pounds TNT	Usually detected only by instruments
3	397 pounds TNT	Felt indoors
4	13,440 pounds TNT (6 tons)	Felt by most people; slight damage
5	445,760 pounds TNT (199 tons)	Felt by all; many frightened and run outdoors; damage minor to moderate
6	6,270 tons TNT	Everybody frightened and are tempted to run outdoors; damage moderate to major
7	199,000 tons TNT	Major Damage
8	6,270,000 tons TNT	Total and major damage
9	199,000,000 tons TNT	-----

*Actual experienced intensity varies significantly with those factors listed in the "Earthquake" paragraph, and may be magnified by fill soils and soils that were deposited by steam action

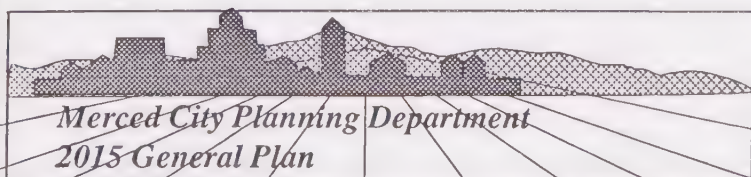


Figure 11.16
Earthquake Magnitude

11.4.2 Dam Failure Characteristics

Yosemite Lake Dam

- ◆ Earthfill
- ◆ East and northeast of the planning area
- ◆ 1.8 miles from the planning area
- ◆ Failure would be gradual
- ◆ Initial flood wave to reach planning area 20 minutes after failure
- ◆ Initial flood wave to pass out of the planning area two hours after failure
- ◆ Floodway center inundation depths of approximately 20 to 30 feet
- ◆ 1 “major” facility existing in planning area inundation area:
 - ◆ 1 community college
 - ◆ 0 K through 12 schools
 - ◆ 0 hospitals

Bear Reservoir Dam

- ◆ Earthfill
- ◆ East and northeast of planning area
- ◆ 20 miles from planning area (estimated)
- ◆ Failure would be gradual
- ◆ Initial flood wave to reach planning area six hours after failure
- ◆ Initial flood wave to pass out of planning area nine hours after failure
- ◆ 26 “major” facilities (existing) in inundation area:
 - ◆ 8 K through 12 schools
 - ◆ 1 jail
 - ◆ 4 hospitals (1 community)
 - ◆ 4 of the City’s 5 Bear Creek bridges
 - ◆ 9 of the City’s 17 shelter facilities

11.4.3 Discussion of Risk

By definition, risk is a hazard of, or exposure to, loss or injury. Risk can be involuntarily accepted, as would be the case in experiencing “acts of God.” Voluntary risks are those accepted with some knowledge of the risk, such as a person’s willingness to engage in dangerous sports. A person’s perception of risk can be affected by several factors; a few of these are listed below.

- 1) If there is familiarity with the risk, it can appear to be lessened. For example, once a person has experienced a hazardous situation on several occasions, the person may not feel the same degree of danger as he did with his first experience.
- 2) If there is a time lag between exposure to the hazard and the occurrence of injury, the hazard can appear less threatening; for example, attending rock concerts and losing one’s hearing.
- 3) Also, if a high level of sophistication is required for understanding how the risk should be calculated, the level or risk may be difficult for the individual to access; for example, investing in the stock market.
- 4) If the probability of injury or loss is low, the perception or risk is reduced. This factor may help explain why homes are built in 50-year floodplains when the risk of being flooded is known to be two percent each year.
- 5) Personal experience sensitizes people to certain risks so that even when the probability is low, the risk will not be taken. The father who remembers the “danger” of a childhood sport

may not allow his child to participate in the same sport.

- 6) The uncertainty of the peril (for example, the evidence supporting but not qualitatively proving that a connection between smoking and lung cancer exists) can decrease the perceived risk.

These factors will influence the willingness to require more stringent standards or reduce the existing standards that have affected the past levels of safety in Merced. In reading this element, the relationship between the perceived risk and actual risk should be understood.

The concept of “acceptable risk” as presented in the Government Code is also important in understanding the purpose of the Safety Element. This report recognizes that hazards are an unavoidable aspect of contemporary society and that, therefore, some degree of risk is inherent in everyday life. In dealing with the level of “acceptable risk,” the consideration is of “tradeoffs,” that is, “what are the costs of eliminating or mitigating hazards versus the benefits received?”

11.4.4 Hazards Unknown in the Merced Planning Area

The following geologic or other hazards are unknown in the Merced planning area:

Hydrocompaction: Hydrocompaction occurs when open-textured soils become saturated with water for the first time, lose their strength, and consolidate under their own weight. In California, about 124 square miles

of land surface has experienced, or is subject to, subsidence due to hydrocompaction. Subsidence of three to five feet is common and has damaged ditches, canals, roads, pipelines, electric transmission towers, and buildings. Hydrocompaction on the west side of the San Joaquin Valley required special consideration and engineering treatment during construction of the California Aqueduct. In contrast, the Delta-Mendota Canal was built without knowledge of the problem, and subsidence of certain portions has required extensive repair.

Seismically Induced Surface Rupture:

A break in the ground's surface and associated deformation resulting in the movement of a fault.

Tsunami: A wave, commonly called a tidal wave, caused by an underwater seismic disturbance, such as sudden faulting, landslide, or volcanic activity.

Source: State of California General Plan Guidelines 1990, p. 141-142.

11.4.5 Pertinent California Code Sections

The following code sections under State law apply to the Safety Element:

- Government Code Section 65302 (g);
- Government Code Section 65302.5;
- Public Resources Code 4102;
- Public Resources Code 2697;
- Public Resources Code 2699;
- Public Resources Code 4125;
- Public Resources Code 4128.5; and,
- Government Resources Code 65303.

RESOLUTION NO. 95- 4

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF
MERCED AMENDING THE SAFETY ELEMENT OF THE GENERAL
PLAN

THE CITY COUNCIL OF THE CITY OF MERCED DOES HEREBY RESOLVE AS
FOLLOWS:

SECTION 1. Having been considered by the City Council
following a public hearing on January 3, 1995, the Safety Element
of the General Plan of the City of Merced is hereby amended to read
as set forth in Exhibit A attached hereto and incorporated herein
by reference.

SECTION 2. The City Clerk is hereby directed to endorse upon
the General Plan of the City of Merced the above revision and the
date of this resolution.

PASSED AND ADOPTED by the City Council of the City of Merced
at a regular meeting held on the 3rd day of January, 1995, by the
following called vote:

AYES: Council Members: GARCIA, BERGMAN, DIAS, CARDOZA, KNUDSEN,
HASSETT, BERNASCONI
NOES: Council Members: NONE
ABSTAIN: Council Members: NONE
ABSENT: Council Members: NONE

APPROVED:

ATTEST:

JAMES G. MARSHALL, CITY CLERK

BY: Carol Bergman
Deputy City Clerk

(SEAL)

RESGNPLNNE

Richard Bernasconi
Mayor

CITY OF MERCED
Planning Commission

RESOLUTION #2341

WHEREAS, the Merced City Planning Commission, at its regular meeting of December 7, 1994, held a public hearing and considered General Plan Amendment #94-07, initiated by the City of Merced, for adoption of an updated Safety Element of the City of Merced General Plan; City-wide; and

WHEREAS, the Merced City Planning Commission concurs with Findings A through E of Staff Report #94-43; and,

WHEREAS, after reviewing the City's Initial Study and Draft Environmental Determination, and fully discussing all the issues, the Merced City Planning Commission does resolve to hereby recommend adoption of a Negative Declaration regarding Initial Study #94-37 and approval of General Plan Amendment #94-07 by adopting the updated Safety Element and Technical Appendices with the following text modification to the element:

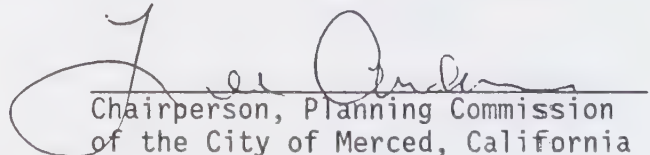
"Action: 2.1.7: Continue to implement the 1993 State law requiring seismic retrofitting of existing buildings when there is a change of use, additions, or remodeling, that affect unreinforced masonry portions of the structure.

Action: 2.2.2: Provide adequate storage facilities to ensure an adequate supply of water in the event of seismic activity. An evaluation of the seismic safety of the water system, including elevated water towers, should be completed as part of the Water Master Plan update."

Upon motion by Commissioner Hinds, seconded by Commissioner Schilling, and carried by the following vote:

AYES: Commissioners Stefani, Hinds, Schilling, Spurgeon, Shields,
Chairperson Andersen
NOES: None
ABSENT: Commissioner Sullivan

Adopted this 7th day of December, 1994.

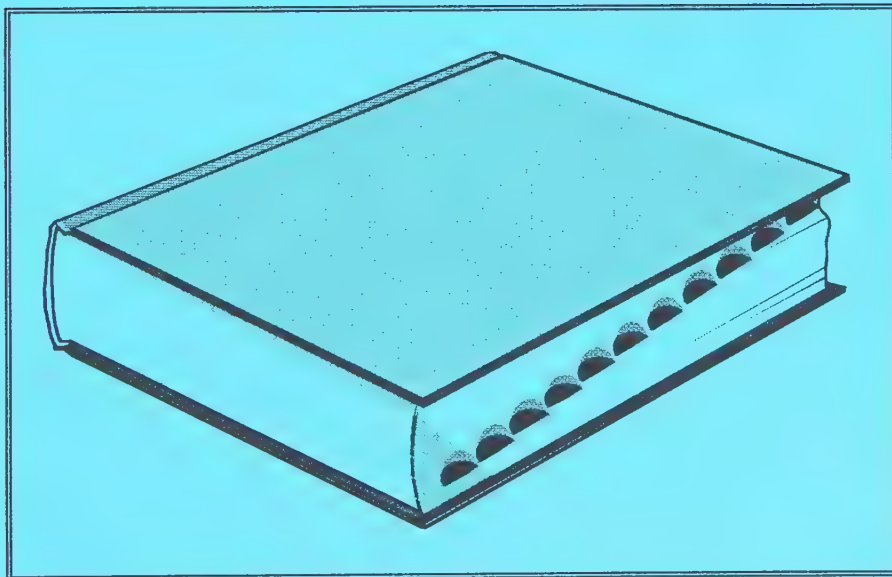

Chairperson, Planning Commission
of the City of Merced, California

ATTEST:



Secretary

Chapter 12--Glossary of Terms





Chapter 12

Glossary of Terms

ACTIONS (IMPLEMENTING)..... see Chapter 1, Section 1.3.2 (page 1-4).

AIRPORT CLEAR ZONE

An area, traditionally beyond the end of an airport runway or elsewhere within the take-off or landing patterns of aircraft associated with the airport, that have land use and/or activity restrictions intended to reduce or eliminate conflict between aircraft flight patterns and human activities. As an example, the Merced Municipal Airport has areas at both ends of its runway that are owned by the City with zoning that is limited to agricultural-related activities.

AREA OF INTEREST

Under the heading "Fringe Area Development," the Merced County Year 2000 General Plan discusses the concept of a city designating an "Area of Interest." These are areas designated by some cities in the county to identify unincorporated areas which are of particular concern for long-term city interests. The County General Plan states:

"The 'Area of Interest' designates land which is outside the SUDP and is not currently planned for annexation or city service delivery, but which is proximate to city territory. Development in these areas may impact city planning and development efforts. Land use activities in these Areas of Interest are generally limited to agricultural and open space uses, except for areas where substantial urban development exists." (Page I-27)

The City of Merced has designated two large "Areas of Interest" on its General Plan Land Use Diagram, marked by very different long-term intent. The first is a major "Area of Interest" north of Old Lake Road. This location is consistent with the City's Merced 2030 Plan/"Northern City" prospective growth area, anticipated at some point after the year 2015. As such, it will likely form the basis for the City's next expected major general plan update, covering the area of prospective growth for the 20 to 30 years following 2015. (See Section 2.7.1, page 2-33.)

The second "Area of Interest" is entitled the "Merced-Atwater Area of Interest" and lies between the two Cities. This is visualized as a long-term "greenbelt" (or designated open space area with little or no development) that would serve to maintain a permanent separation between the two communities, thus helping retain each community's individual identity and character. (See Section 2.6.3, page 2-31.)

ARTERIAL see **CIRCULATION**.

“BACK” OFFICE..... see Explanatory Note under **BUSINESS PARK**.

BELTWAY..... see **CIRCULATION**.

BUFFER

A “buffer” is a mechanism to separate and protect one type of land use from the possibility of undesirable characteristics of another. It may be a piece of land, with a particular zoning/land use of its own (i.e., a buffer of professional offices may be used to separate more intensive commercial land uses from lower density residential). A buffer may also be a physical screen, such as planting or fencing. The purpose remains to shield or screen out any potential objectionable features, including physical impacts (noise or smoke), visual impacts, or human activities, associated with a more intensive or unattractive land use (e.g. junkyard or industrial area).

BUSINESS PARK

A business park is a land use designation that allows a mix of commercial, office and industrial land uses, which may include a wide variety of light manufacturing, warehousing, office and service business activities. Access and parking facilities are shared.

Most retail uses that would normally be found in a shopping center would not be appropriate in these areas. However, retail sales of large products, such as building supplies, appliances, and furniture, and most heavy commercial uses, would be. These parks would probably not be attractive for most professional offices, but some commercial offices and all regional “back” offices* would be encouraged. Light industry would be appropriate, but heavy industry would not. Business Parks would require good access, in proximity to major roadways, and should be close to residential population centers and urban service centers to minimize vehicle traffic generation and trip length.

(* “Back Offices”--Office uses with a large number of employees--consist of two types:

- 1) Traditional regional or “back” offices, such as Farmer’s Insurance, have a large number of employees working in a central location with little or no public contact (processing applications, orders, loans, etc.). Such a use would have few locational restrictions, as long as there is enough land and the site has good access.
- 2) Government and public utility regional offices (such as the Merced Civic Center, the Merced County Courts and Administrative Complex, and PG&E’s M Street headquarters) also house large numbers of employees in one location, but also have major interaction with the public that means heavier access demands on more extended basis).

CALTRANS see Section 1.8.2 (page 1-13).

CASTLE AIR FORCE BASE (CAFB) see **CASTLE AIRPORT AVIATION AND DEVELOPMENT CENTER**.

CASTLE AIRPORT AVIATION AND DEVELOPMENT CENTER

Castle Air Force Base (closed 1995) renamed Castle Airport Aviation and Development Center. Actions to convert this facility to civilian employment center are under the jurisdiction of a Joint Planning Authority (JPA) composed of Merced City, Merced County and City of Atwater representatives.

CEQA (CALIFORNIA ENVIRONMENTAL QUALITY ACT)

Enacted by the California Legislature in 1970, CEQA was conceived primarily as a means to require public agency decision-makers to document and consider the environmental implications of their actions. CEQA applies to governmental agencies at all levels throughout California. It effectively requires agencies to seek feasible means to reduce or avoid significant environmental damage that otherwise could result from their actions. Public agencies must prepare an environmental impact report (EIR) whenever a proposed “project” may cause “significant (adverse) effects (or impacts)” on the environment. The EIR process is designed to inform the public and decision-makers of both positive and negative aspects of a project, as well as possible ways to reduce or eliminate these negative aspects. Even though a project may be identified as having major environmental impacts, an agency may still allow it by adopting “overriding considerations” that are intended to identify positive aspects that “override” the project’s negative impacts.

CIRCULATION

The movement of people and goods through and around the City of Merced and its surrounding region. This term is often used interchangeably with “Transportation,” although “Transportation” can be more precisely defined as “the means by which the circulation of people and goods are made.”

Arterial..... see Circulation Chapter, Section 4.8.1, pages 4-74 to 4-76.

Beltway see Circulation Chapter, Section 4.7.2, pages 4-64 to 4-66.

Collector..... see Circulation Chapter, Section 4.8.1, pages 4-77 to 4-79.

Transitway see **TRANSITWAY**.

DENSITY see **LAND USE INTENSITY**.

“DIAGRAM” see **LAND USE DIAGRAM**.

FLOOR AREA RATIO (FAR)

The gross floor area of all buildings on a lot divided by the lot area. For example, a building 100 feet x 100 feet on a 100 x 100 lot would result in a FAR of 1.0 (10,000 square feet of building floor area divided by 10,000 square feet of total lot area). It is a more refined and adaptable measurement of development intensity than simple building coverage, which can be adapted for different types of zones and incorporated in zoning ordinances. In the above example, a building 50 x 100 but two stories in height would have the same FAR of 1.0.

GENERAL PLAN

A General Plan for a city functions much as a constitution for a nation. It is a guiding framework for decisions. The General Plan is a statement of the community's vision of its long-term or ultimate physical form. (See Section 1.2, page 1-2.)

GOALS..... see Chapter 1, Section 1.3.2 (page 1-4).

GREENBELT

An open area which may be cultivated or maintained in a natural state surrounding development or used as a buffer between land uses or to mark the edge of an urban or developed area.

HIERARCHY OF STREETS

The classification of streets and highways by their diverse functions and design:

Street classifications range from the "residential cul-de-sac" with the lowest traffic levels to the "freeway" with the highest traffic levels, with "collectors" and "arterials" in between. Residential cul-de-sacs are designed to provide access to abutting property for local traffic only, with a strong focus of safety over speed since they are often used by pedestrians or children at play. Freeways are multi-lane roads with full grade separation, total control of access through the use of interchanges only, median strips, and fencing/landscaping along the sides, with a strong focus on high speed efficiency. (See Section 4.8.1, starting on page 4-72.)

HOV

High Occupancy Vehicle--typically defined as a vehicle carrying two or more people (such as carpools, vanpools, and buses).

IMPLEMENTING ACTIONS see **ACTIONS**.

JOINT UC (UNIVERSITY OF CALIFORNIA) PLANNING AREA

Both the City and County of Merced have policies relating to cooperative planning for the areas surrounding the future UC campus. The County's General Plan includes a "University Community Specific Urban Development Plan (SUDP) area," containing the campus and remaining Smith Trust areas. The City proposes a "Joint Planning Area" (involving the City and County, Trust representatives and the UC) for an area containing the campus, remaining Smith Trust properties, and areas south and southwest of Lake Yosemite that are likely to be impacted by the planned UC. (See Section 2.6.1, pages 2-28 to 2-30.)

LAFCO (LOCAL AGENCY FORMATION COMMISSION)

A State required commission in each county in California which regulates boundary changes proposed by public agencies. The Commission consists of five members in Merced County (two County supervisors, two representatives from the incorporated cities, and one public member). A primary goal of LAFCO is to eliminate the overlapping of governmental services and service-providing entities. This can involve determining whether or not a community or service district has the capability to provide adequate public services to a proposed annexation area. LAFCO then approves (or denies) such an annexation through a public hearing process.

LAFCO is also responsible for developing and determining the **Sphere of Influence** of each local governmental agency within the county. In addition, based upon adopted regulations, LAFCO considers applications for formation or amendment of special districts (an example might be a district created to provide water to a particular area).

LAND USE

The way in which land is being used is the “land use.” Examples of “land use” include residential, industrial, and commercial.

LAND USE DEFINITIONS..... see Chapter 3, Section 3.9, pages 3-61 to 3-72.

LAND USE DENSITY AND LAND USE INTENSITY (LUI)

“Land use **density**” refers to the number of dwelling units or people per acre of land. It can be measured in terms of “gross” or “net” density. “Gross Density” is the number of dwelling units per acre of developable residential land designated on the Land Use Diagram, including public streets and open space. “Net Density” is the number of dwelling units per acre of developable land, excluding public streets and open space.

“Land use **intensity**” measures the concentration of use or the amount of physical development allowed on a piece of property. Building intensity is measured in this General Plan by the amount of building floor area allowed in relationship to the size of the property (see **Floor Area Ratio**).

LAND USE DIAGRAM

The successor to the General Plan “Land Use Map.” The term “diagram” is used in place of the term “map,” since “map” indicates a level of specificity that a general plan “diagram” is not expected to contain. The diagram depicts the general location of permitted land use classifications (example: regional commercial), as well as a density/intensity range for each land use classification within Merced’s SUDP. The General Plan Land Use Chapter promotes the achievement of community goals by establishing clear direction for future land use, through narrative text, quantifying tables, and the land use diagram. (See Section 1.3.1, pages 1-3 to 1-4.)

LEVEL OF SERVICE (LOS)

Service (LOS) quantitatively describes the operating conditions encountered on streets. LOS ranks street operations based on the amount of traffic and the quality of traffic movement on a scale of A through F. Level A represents free-flow conditions and Level F represents heavy traffic congestion or streets with more cars than they have room for. Level of Service is influenced by a number of factors, including: number of lanes, frequency and spacing of traffic signals, frequency and spacing of intersecting side streets and curb cuts, pedestrian activity, and existence of left- and right-turn pockets. (For more details see Chapter 4; Section 4.4.1 and Figures 4.12a and 4.12b, beginning on page 4-24.)

MERCED COUNTY ASSOCIATION OF GOVERNMENT (MCAG)

MCAG is the regional planning agency for the Merced County area, including designation as its Regional Transportation Planning Agency. Since 1986, when the City of Merced was declared a “Metropolitan Statistical Area” by the Census Bureau, MCAG has also been designated the Metropolitan Planning Organization for the County.

Its governing board contains representatives from the County of Merced and each of the six incorporated cities within the County. MCAG assesses regional planning needs and establishes related priorities, administers regional programs, and coordinates cities/county planning with the State. See also Section 1.8.2, page 1-12.

MERCED IRRIGATION DISTRICT (MID) See Section 1.8.2, page 1-13.

MERCED 2030: HOW SHOULD WE GROW?

Report prepared by the City of Merced Community Development and Public Works Departments, dated March 1990. The report indicated that if the City of Merced’s growth rate continued in the future, the City could expect to have a population of up to 250,000 within 40 years (by the year 2030). The report analyzed the advantages and disadvantages of four possible (future) growth scenarios for the City: I (“Western City”); II (“Linear City”); III (“Eastern City”); and IV (“Northern City”), as well as V (“Do Nothing”).

The report also looked at three possible growth concepts: the Sprawling City, the Central City, or the Village Concept (Multi-Center Model). The report contains the conclusion that “the Village Concept of Growth” offers the best potential to lessen the adverse effects of growth, as compared to the Sprawling City or Central City models. The City Council subsequently adopted the “Northern City” growth scenario, which assumed a northward growth pattern with four villages near (west and north of) Lake Yosemite. (See Section 2.2.2, page 2-4.)

NEIGHBORHOOD

The smallest subarea in City Planning, defined as a residential area whose residents have public facilities and social institutions in common, generally within walking distance of their homes. A **Village** is an extended neighborhood area that continues to share basic facilities (such as local schools, parks, commercial facilities and, potentially, decentralized governmental services) and which can be defined by significant physical barriers such as major roadways.

NORTHERN CITY (GROWTH SCENARIO)..... see **MERCED 2030**.

POLICIES see Chapter 1, Section 1.3.2 (page 1-4).

PUBLIC INFRASTRUCTURE

Streets, water and sewer lines, and other public facilities necessary to the functioning of an urban area.

RIGHT-OF-WAY (ROW)

Typically as used in this report, reference is to land acquired by a public agency, most often for a street and adjacent public area (location of park strips, sidewalks, fire hydrants, mail boxes, streetlights, etc.). Cross-sections illustrating what is included in street rights-of-ways appear in Section 4.8.1 of the Transportation and Circulation Chapter, beginning on page 4-72. ROW's may also be for a railroad, transmission lines, oil or gas pipelines, water lines, sanitary storm sewer and other similar uses.

ROW (RIGHT-OF-WAY)..... see **RIGHT-OF-WAY**.

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT (SJVUAPCD)..... see Section 1.8.2, page 1-12.

SOI (SPHERE OF INFLUENCE)..... see **SPHERE OF INFLUENCE**.

SPECIFIC URBAN DEVELOPMENT PLAN (SUDP)

A “specific urban development plan” boundary is a land use planning standard established in the Merced County General Plan. According to the Merced County Year 2000 General Plan, the SUDP area “is the broadest General Plan boundary designation intended to accommodate all classifications of land use.”

The County General Plan goes on to state:

“An SUDP has a boundary line which is recognized as the ultimate growth boundary of the community over the life of the Plan. All land within the SUDP is planned for eventual development in a mixture of urban and urban-related uses, as designated on the SUDP diagram (map) for each community. Whenever land is added to an SUDP, the decision is made that it will ultimately be converted to an urban use.” (Page I-7)

SPHERE OF INFLUENCE (SOI)

Established by the Local Agency Formation Commission (LAFCO). Established in accordance with state law, these code provisions indicate that an SOI “means a plan for the probable ultimate physical boundaries and service area” of a local jurisdiction, as determined by LAFCO. In order for an annexation to be approved by LAFCO, the territory must be within the Sphere of Influence. The City’s SOI is shown at Figure 2.4 (Urban Expansion Chapter, page 2-14).

LAFCO uses the SOI as a means of regulating local government (cities and special districts) service areas. State law also indicates that LAFCO, in determining an SOI for a local agency, shall consider each of the following: 1) the present and planned land uses in the area, including agricultural and open space lands; 2) the present and probable need for public facilities and services in the area; 3) the present capacity of public facilities and adequacy of public services which the agency provides or is authorized to provide; and, 4) the existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency. (See also Section 2.3.2, beginning on page 2-9.)

SUDPsee **SPECIFIC URBAN DEVELOPMENT PLAN**.

TRANSITWAY

Through most of the City, “M” Street is designated a “Transitway” on the City’s Circulation Plan (Figure 4.1, following page 4-2). This roadway is a major north-south corridor which offers direct or nearly direct bus service to most significant destinations in the urban area. “M” Street transitions from an arterial south of Black Rascal Creek to a major divided arterial (special cross-section) northward to Cardella Road. North from Cardella Road to Old Lake Road, plans call for “transit only” segments for portions of the route, that will allow only public buses and emergency and public service vehicles. These will alternate with traditional full-service street segments. This pattern is intended to enhance the use of public transit along this corridor, by eliminating through traffic although still allowing private vehicles to access local neighborhoods and commercial centers. (See also Sections 4.3.4 and 4.4.8, on pages 4-13 and 4-39 respectively, and Figure 4.33 on page 4-77.)

UNIVERSITY OF CALIFORNIA (UC) SAN JOAQUIN (MERCED)/UC MERCED

Terms applied to the planned development of the 10th University of California Campus near Lake Yosemite. (See Section 2.6.1, page 2-28.)

UEA (URBAN EXPANSION AREA)see **URBAN EXPANSION AREA.**

URBAN DESIGN

The attempt to give form, in terms of both beauty and function, to entire areas or to whole cities. The term implies a more fundamental approach than “beautification” and is concerned with the location, mass, and design of the various urban components. It combines the concerns of urban planning, architecture, and landscape architecture.

URBAN EXPANSION AREA (UEA)

A land use category used extensively in the City’s 1981 General Plan, which indicated areas designated for future urban development that did not yet have a specific land use designation, such as residential, commercial, or industrial. The *Merced Vision 2015 General Plan* does not designate any areas as “Urban Expansion Area” on the Land Use Diagram.

URBAN FRINGE

An area at the edge of the urban area usually made up of mixed agricultural and urban land uses.

URBAN VILLAGES..... see **VILLAGE (URBAN VILLAGES) LAND USE CONCEPT.**

VILLAGE..... see **VILLAGE (URBAN VILLAGES) LAND USE CONCEPT.**

VILLAGE (URBAN VILLAGES) LAND USE CONCEPT

The Merced Village Concept is a land use concept planned for Merced’s new growth areas, most particularly the Northern Growth Area. (This area is generally bounded by Yosemite Avenue, Parsons/Gardner Road, Old Lake Road, and Highway 59.) It is anticipated that the City’s future growth in this, and other areas as feasible, will take place through the development of a series of

“urban villages.” The Village Concept is an effort to take the typical elements of urban growth -- retail centers, single and multi-family housing, roads, and public services -- and reorganize them to form a more efficient and development pattern. This “Village Concept” foresees these Villages as a series of diverse and livable, extended neighborhoods, each located within one approximate square mile bounded by major roadways (arterials). These Villages offer the opportunity to retain compact urban development patterns while more evenly distributing public and private services, maintaining a strong sense of community, and accommodating all types of housing and methods of transportation.

Each Village contains a central commercial core area of varying sizes (containing various types of commercial services, government facilities/services, and a public transit center), surrounded by a medium-density residential area within walking distance of the core, with a lower-density residential area surrounding the medium-density area and extending outward to encompass approximately one square mile. There are three distinct areas within the Village:

Village Center	Variously referred to as the village core, village commercial center, or <i>Core Commercial Area</i> .
Inner Village	Also referred to as “the Village” in previous studies, the <i>Inner Village</i> contains the <i>Village Center/Core Commercial Area</i> and the <i>Village Core Residential areas</i> surrounding the Village Center. The Village Core Residential areas contain medium-density residential uses within easy walking distance (approximately 1/4 mile) of transit and the Village Center.
Outer Village	The surrounding or outer residential area containing relatively low residential densities. These lower density areas would be tied to the core area by a convenient network of local and collector streets.

[For more details, see the Land Use Chapter (Section 3.6, beginning on page 3-45) and the Urban Design Chapter (6).]

ZONING

State-authorized regulations that establish permitted land uses for an area designated as a particular zone district. Permitted uses vary from zone district to district. Zoning regulations also control the placement, height, bulk, and coverage of structures within each zone district shown on a jurisdiction’s zoning map. The City of Merced’s official zoning map is part of the Zoning Ordinance, Title 20 of the Merced Municipal Code.)

ZONE DISTRICT

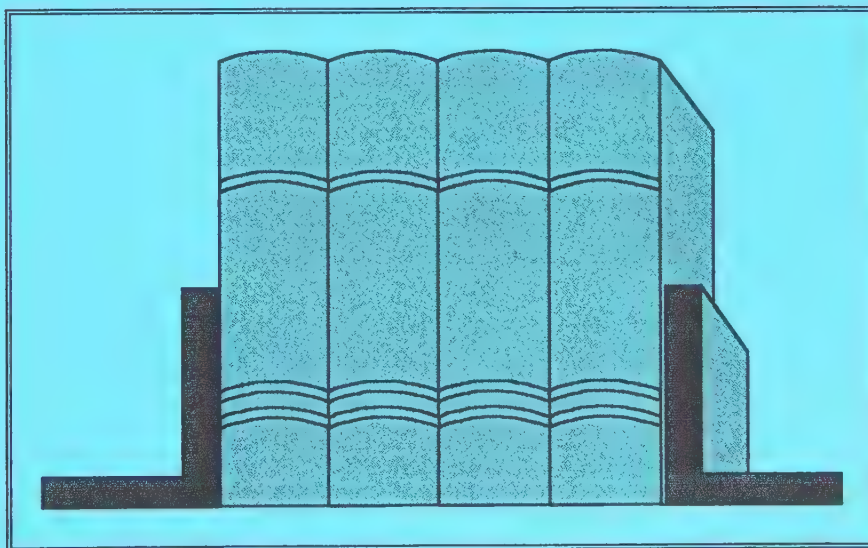
A section of a city or county designated in a jurisdiction’s zoning regulations (ordinance) and (usually) delineated on the zoning map, in which requirements for the use of land and buildings, and development standards, are prescribed. Within each district, all requirements must be uniform. The number of districts within a jurisdiction may vary widely, depending upon circumstances and needs.

(8/9/96)

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Chapter 13

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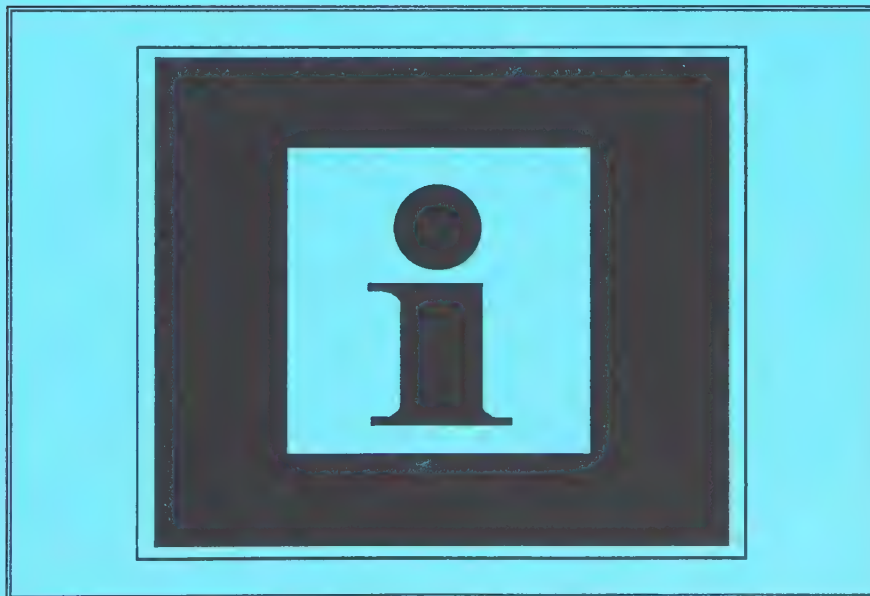
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Chapter 14

Subject and Policy Index

14.1 POLICY INDEX

This Policy Index is a guide to the various goals, policies, and implementing actions contained in the *Merced Vision 2015 General Plan* by subject. In the right-hand column next to each subject are the numbers of the various goals, policies, and actions which pertain to that subject. The type face indicates whether it is a goal, policy, or action:

Bold = Goal Area (e.g. UE-1)

Italics = Policy (e.g. UE-1.1)

Standard = Implementing Action (e.g. UE-1.1.a)

The goals, policies, and actions are also coded by chapter as seen below:

UE = Chapter 2, Urban Expansion

OS = Chapter 7, Open Space, Conservation, & Recreation

L = Chapter 3, Land Use

SD = Chapter 8, Sustainable Development

T = Chapter 4, Transportation and Circulation

H = Chapter 9, Housing

P = Chapter 5, Public Services and Facilities

N = Chapter 10, Noise

UD = Chapter 6, Urban Design

S = Chapter 11, Safety

Section 14.2, starting on page 14-12, contains a summary of all these goals, policies, and implementing actions, classified by chapter. After referring to the Policy Index, the reader may find a particular goal, policy, or action by looking it up in this summary. Here the reader will also find the corresponding page numbers in the *Merced Vision 2015 General Plan* document where the complete text of the goal, policy, or action is found.

SUBJECT..... GOALS, POLICIES, & ACTIONS

A

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Air Quality--Educational Programs	SD-1.4; SD-1.4.a; SD-1.4.b
Air Quality--Regional Programs	SD-1 ; SD-1.1.d; SD-1.2; SD-1.2.a; SD-1.2.b; SD- 1.2.c; SD-1.2.d
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Annexation--Developed Areas	UE-1.7; UE-1.7.a; UE-1.7.e
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SUBJECT..... GOALS, POLICIES, & ACTIONS

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SUBJECT..... GOALS, POLICIES, & ACTIONS

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M

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SUBJECT.....GOALS, POLICIES, & ACTIONS

M (CONT.)

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SUBJECT..... GOALS, POLICIES, & ACTIONS

T

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U

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SUBJECT..... GOALS, POLICIES, & ACTIONS

V

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W

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Y

Yosemite Valley Railroad.....	T-3.5.c
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Z

Zoning-- Performance Standards	L-2.5.d
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14.2 SUMMARY OF GOALS, POLICIES, AND IMPLEMENTING ACTIONS

Chapter 2—Urban Expansion

Goal Area UE-1: Urban Expansion

GOALS

- A Compact Urban Form
- Preservation of Agriculturally Significant Areas
- Efficient Urban Expansion

POLICIES and IMPLEMENTING ACTIONS

UE-1.1 Designate areas for new urban development that recognize the physical characteristics and environmental constraints of the planning area. (p. 2-22)

- 1.1.a Direct development away from significant concentrations of “Prime” agricultural soils and give priority to the conversion of non-prime agricultural land if reasonable alternatives exist.
- 1.1.b Limit development and development related impacts on agricultural lands along the City’s urban fringe.
- 1.1.c Incompatible urban development shall not be approved in designated airport clear zones.
- 1.1.d Work with Merced County to establish policies to protect prime agricultural areas around the Sphere of Influence, including the areas north of Highway 140 and east of Lake Road (extended), from urban development. This process should include consideration of:
 - a) A process to implement techniques (transfer of development rights, agricultural easements, Farmland Trusts, etc.) as part of the UC Campus Parkway corridor planning in order to establish a limited access parkway with no adjacent urban development outside of the Merced SUDP and the University Community SUDP.
 - b) Designation of an “Area of Interest” or other process to require referral for comment to the City of any proposed development projects within a to-be-established boundary.
 - c) Limiting the expansion of the existing Rural Residential Centers and SUDP’s into prime agricultural areas around the Sphere of Influence.
- 1.1.e Explore techniques to preserve areas of significant agricultural soils, aircraft noise and safety zones, buffers between cities, scenic areas, etc. from incompatible urban development.

UE-1.2 Promote a compact urban form. (p.2-24)

- 1.2.a Encourage development on in-fill sites by amending the Zoning and Subdivision Ordinances to better accommodate such requests.
- 1.2.b Work with Merced County to ensure that existing unincorporated Rural Residential Centers in the Merced area are not expanded and no new Rural Residential Centers are established.
- 1.2.c Continue to limit the expansion of City utilities to only those within an established urban expansion boundary.
- 1.2.d Promote higher residential densities within the Merced urban area.

UE-1.3 Control the timing, density, and location of new land uses within the City's urban expansion boundaries.

(p.2-26)

- 1.3.a The City should require that all new urban development be contiguous to existing urban areas and have reasonable access to public services and facilities.
- 1.3.b The City should adequately plan for public improvements/services to support designated land uses for all areas as they become suitable for development.
- 1.3.c The City should develop systems to evaluate the cost of providing various services to new development and establish clear policy for meeting those costs.
- 1.3.d The planning for land uses in newly developing areas should reflect a mix of land uses which will support a neighborhood, including a variety of residential densities and price ranges, neighborhood and convenience shopping facilities, and public facilities such as schools and parks.
- 1.3.e Work with the County to implement the land use provisions of the "Property Tax Sharing Agreement between the City of Merced and the County of Merced" (Section 2.3.4).
- 1.3.f Evaluate future annexation requests against the following conditions:
 - a) Is the area contiguous to the current City limits and within the City's Specific Urban Development Plan (SUDP)?
 - b) Is the proposed development consistent with the land use classifications on the General Plan Land Use Diagram (Figure 3.1)?
 - c) Can the proposed development be served by the City water, sewer, storm drainage, fire and police protection, parks, and street systems to meet acceptable standards and service levels without requiring improvements beyond which the developer will consent to provide?
 - d) Will this annexation result in the premature conversion of prime agricultural land as defined on the Important Farmland Map of the State Mapping and Monitoring Program? If so, are there alternative locations where this development could take place without converting prime soils?
 - e) Will a non-agricultural use create conflict with adjacent or nearby agricultural uses? If so, how can these conflicts be mitigated?

UE-1.4 Establish joint City-County planning program on the UC San Joaquin (Merced) site and Smith Trust lands.

(p.2-28)

- 1.4.a Incorporate the UC San Joaquin (Merced) campus area and adjacent lands owned by the Cyril Smith and Virginia Smith Trusts as part of the City's Sphere of Influence.
- 1.4.b Participate in cooperative planning of UC San Joaquin (Merced) and its surrounding lands.
- 1.4.c Work closely with the University of California and the County of Merced in development of the UC San Joaquin (Merced) Campus Plan and provide assistance in the expansion of infrastructure to service the site as required.

UE-1.5 Work with Merced County and the City of Atwater to establish a Greenbelt area between the Cities of Atwater and Merced.

(p.2-29)

- 1.5.a Establish a "Greenbelt" area between the City of Merced and the City of Atwater.
- 1.5.b Designate the Greenbelt area as an "Area of Interest" in accordance with policies contained in the Merced County General Plan.

UE-1.6 Preserve the projected “Northern City” urban expansion area for anticipated growth needs beyond the year 2015. *(p.2-29)*

- 1.6.a** Develop a cooperative planning program with the County of Merced for review of development proposals submitted in the “2030 Plan” expansion area.
- 1.6.b** Designate the “2030 Plan” expansion area as an “Area of Interest” in accordance with policies contained in the Merced County General Plan.

UE-1.7 Promote annexation of developed areas within the City’s Specific Urban Development Plan (SUDP) during the planning period. *(p.2-30)*

- 1.7.a** The City should promote the annexation of unincorporated urban areas within the urban expansion boundaries which cause a duplication of public services and hinder extension of City services to new development.
- 1.7.b** Review relevant City improvement and development policies to remove unnecessary obstacles to incorporation.
- 1.7.c** Provide assistance to residents of unincorporated areas to address public health and safety concerns of on-site water and sewer systems.
- 1.7.d** Review and revise zoning standards which restrict limited agricultural uses on large-lot residential development.
- 1.7.e** Provide information to interested unincorporated area residents on the benefits of annexation.

Chapter 3—Land Use

Goal Area L-1: Residential & Neighborhood Development

GOALS

- **Housing Opportunities in Balance with Jobs Created in the Merced Urban Area**
- **A Wide Range of Residential Densities and Housing Types in the City**
- **Preservation and Enhancement of Existing Neighborhoods**
- **Quality Residential Environments**
- **Pedestrian-Friendly Residential Environments**
- **A Sense of Community**

POLICIES AND IMPLEMENTING ACTIONS

L-1.1 Promote balanced development which provides jobs, services and housing. *(p.3-15)*

- 1.1.a** Promote mixed use development combining compatible employment, service and residential elements.
- 1.1.b** Periodically review job growth statistics in the Merced urban area compared to new residential development.
- 1.1.c** Determine the types of housing opportunities needed for the type of employment opportunities being created in the City.

L-1.2 Encourage a diversity of building types, ownership, prices, designs, and site plans for residential areas throughout the City. *(p.3-15 to 3-16)*

- 1.2.a** Encourage higher-density residential developments within walking distance (approx. 1/4 mile) of commercial centers.
- 1.2.b** Encourage residential and/or office above retail in the downtown area and in neighborhood commercial cores.
- 1.2.c** Continue to allow second units in single-family areas and consider amending the Zoning Ordinance to allow rental of these units to people other than relatives or age 65 or older.
- 1.2.d** Encourage duplexes on corner lots in low-density residential areas.
- 1.2.e** Consider density increases for existing residential sites where the necessary conditions exist for higher densities.
- 1.2.f** Create a new zoning category to correspond with the “Village Core Residential” land use category for mixed densities in residential areas within walking distance of neighborhood commercial centers.

L-1.3 Encourage a diversity of lot sizes in residential subdivisions. *(p.3-17)*

- 1.3.a** Continue the use of Residential Planned Developments to provide for smaller lot sizes in single-family developments.
- 1.3.b** Continue to retain large lot parcel zoning (10,000 to 20,000 square feet) along Bear Creek and in areas adjacent to the urban fringe.
- 1.3.c** Continue to use the “Random-mixed Lot” ordinance (MMC 20.10.065) to allow a mix of lot widths and lot sizes in R-1-6 (single-family residential-- 6,000 square-foot minimum lot size) zones.

L-1.4 Conserve residential areas that are threatened by blighting influences. (p.3-17 to 3-18)

- 1.4.a** Conduct a study of non-conforming land uses and determine if the land use designations/zoning should be changed to conform to the existing use or if changes should be made to the Zoning Ordinance restrictions on non-conforming uses.

[For additional implementing actions, please refer to the Housing Element (Chapter 9)--Goal Area 2.]

L-1.5 Protect existing neighborhoods from incompatible developments. (p.3-18 to 3-19)

- 1.5.a** Continue to use the Interface Overlay Zone regulations for the review of proposed land uses adjacent to residential areas.
- 1.5.b** Evaluate traffic and circulation generated by large scale commercial and industrial projects and limit their adverse impacts on residential areas.
- 1.5.c** Continue to implement City Council Resolution #84-105 establishing policy for zone changes in the Central Residential Area of the City (bounded by 18th Street on the south, Glen Avenue on the east, and Bear Creek on the north and west).

L-1.6 Continue to pursue quality single-family and higher density residential development.

(p.3-19)

- 1.6.a** Continue to review proposed subdivision designs to ensure the provision of adequate circulation, public improvements, common open space, landscaping, maintenance, etc. through the Development Review process.
- 1.6.b** Continue to require multi-family projects to comply, at minimum, with the adopted standards and design guidelines contained in the "City of Merced Multi-Family Design Standards and Guidelines."

L-1.7 Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services.

(p.3-19 to 3-20)

- 1.7.a** Designate areas adjoining arterial streets, major transportation routes and commercial areas for multi-family development.
- 1.7.b** Use the Urban Village Concept to promote higher density residential development adjacent to commercial services and transit.

L-1.8 Create livable and identifiable residential neighborhoods.

(p.3-20)

- 1.8.a** Encourage Neighborhood Watch programs and other neighborhood associations throughout the City which facilitate concern for and contact with one's neighbors.
- 1.8.b** Define specific neighborhood boundaries using natural or man-made features, such as creeks and roads, or by common community facilities (parks, schools, shopping centers). Ethnic and economic boundaries are discouraged.
- 1.8.c** Develop a neighborhood planning process by which the concerns of specific neighborhoods can be addressed through neighborhood plans.

Goal Area L-2: Economic & Business Development

GOALS

- Increased Employment Opportunities for the Citizens of Merced
- A Diverse and Balanced Merced Economy
- Preservation of the City's Economic Base
- High Quality Industrial Areas
- Ready Access to Commercial Services Throughout the City
- A Revitalized Downtown Area

POLICIES AND IMPLEMENTING ACTIONS

L-2.1 Encourage further development of appropriate commercial and industrial uses throughout the City. *(p.3-37 to 3-38)*

- 2.1.a Designate adequate amounts of commercial and industrial land to serve the City's employment needs through 2015 and beyond.
- 2.1.b Maintain an inventory of vacant commercial and industrial land and make this inventory available to the public and the development community.
- 2.1.c Continue the City's Economic Development activities.
- 2.1.d Develop incentives as appropriate to encourage new commercial and industrial development.
- 2.1.e Specifically target South Merced as an area that needs more commercial retail and office development.
- 2.1.f Promote industrial development that offers full-time, non-seasonal employment.
- 2.1.g Maintain a list of target industries for economic development purposes.
- 2.1.h Evaluate the future role of the Merced Airport and the desirability of expanding uses in the Airport Industrial Park to further promote tourism uses dependent on aviation access.
- 2.1.i Actively market the benefits of the Merced-Atwater Enterprise Zone and Recycling Enterprise Zone.

L-2.2 Locate new or expanded industrial parks in appropriate areas. *(p.3-38 to 3-39)*

- 2.2.a Industrial areas should be located where they will have good access to air transportation, rail transportation, or major highway transportation links.
- 2.2.b Industrial reserve areas should be protected from non-industrial use or premature development through agricultural zoning until such time as the land is needed for industrial development.
- 2.2.c Parcels of land in industrial reserve areas should remain as large as possible in order to accommodate a variety of plant sizes and types in the future.
- 2.2.d Develop an action program which outlines priorities for annexing new industrial and commercial areas and includes plans for providing services and infrastructure to these future industrial/commercial areas.

L-2.3 Promote the retention and expansion of existing industrial and commercial businesses.

(p.3-39 to 3-40)

- 2.3.a** Protect industrial areas from encroachment by non-industrially-related uses.
- 2.3.b** Continue to improve the permit approval process to ensure that industrial development project are approved in a timely manner.
- 2.3.c** Maintain a business outreach program to ensure that the needs of existing businesses are met.

L-2.4 Provide a range of services adjacent to and within industrial areas to reduce auto trips.

(p.3-40)

- 2.4.a** Establish a new zoning designation called "business park" which would allow a mix of heavy commercial, "back office," and light industrial uses.
- 2.4.b** Continue to allow services, such as restaurants and other retail commercial uses which mainly serve industrial employees, to locate in industrial zones as discretionary uses.
- 2.4.c** Consideration should be given to provide attractive, efficient, and affordable means of mass transit between industrial areas and residential areas of the City.
- 2.4.d** Consideration should be given to making changes to the Zoning Ordinance which allow for some commercial and service activities in and/or convenient to industrial areas.

L-2.5 Maintain attractive industrial areas.

(p.3-41)

- 2.5.a** Continue to require Site Plan Review of new industrial development and the application of standards regarding landscaping, appearance, circulation, access, and parking.
- 2.5.b** Consider requiring the planting of parking lot trees in industrial areas, perhaps at a reduced standard instead of the one tree for each six parking spaces required in other areas, to provide shade, reduce glare, and reduce reflective heat.
- 2.5.c** Require the removal or screening of all rubbish, abandoned buildings, processing wastes, old equipment, or other forms of blight in industrial areas.
- 2.5.d** Investigate the possibility of regulating industrial development on the basis of or in combination with performance standards instead of strictly by definition of specific allowable uses as in the Zoning Ordinance.

L-2.6 Provide neighborhood commercial centers in proportion to residential development in the City.

(p.3-42 to 3-43)

- 2.6.a** Neighborhood commercial centers should be located approximately one mile apart along major arterial streets adjacent to residential areas throughout the City.
- 2.6.b** Special emphasis should be placed on encouraging the development of neighborhood commercial center(s) in the general vicinity of the South Highway 59 corridor to serve the needs of South Merced residents.
- 2.6.c** Efforts should be made to encourage the development of a neighborhood commercial center in the area east of G Street between Yosemite Avenue and North Bear Creek Drive.
- 2.6.d** Efforts should be made to encourage the development of a neighborhood commercial center(s) in Southeast Merced in the general area east of Parsons Avenue on Childs or Gerard Avenue.

L-2.7 Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets. *(p.3-43 to 3-44)*

- 2.7.a New retail commercial designations shall be located along arterials at their intersections with collector streets (at 1/4 mile or 1/2 mile locations) in new growth areas. These commercial areas should not be located at the intersections of two arterials.
- 2.7.b Commercial centers shall be designed to provide direct vehicular and pedestrian access from surrounding neighborhoods. In no case shall trips which could be internal (from adjacent neighborhood to center) be forced onto an arterial.
- 2.7.c The number of commercial driveways on major streets shall be minimized and located in areas where they will cause minimal conflicts with traffic flow on major streets and through intersections.
- 2.7.d Cross-access and shared driveways between adjacent commercial uses shall be provided as much as feasible.
- 2.7.e Commercial developments shall be designed to encourage pedestrian, bicycle, and transit access.
- 2.7.f Continue to implement City Council Resolution #93-10 establishing policy for the location of retail and service related uses in North Merced.

L-2.8 Encourage a mixture of uses and activities that will maintain the vitality of the downtown area. *(p.3-45 to 3-46)*

- 2.8.a Strengthen downtown cultural activities and focus on Merced's cultural diversity.
- 2.8.b Retain all existing and attract new financial service businesses, office uses, and government-related offices in downtown Merced.
- 2.8.c Create a compact, walkable retail core with multi-cultural offerings and mixed-use development.
- 2.8.d Develop a mix of regionally-oriented businesses along Highway 99.
- 2.8.e Preserve the existing housing stock and build a mix of new higher density housing.
- 2.8.f Develop more office space downtown through renovation and new construction.
- 2.8.g Strengthen transportation systems to support downtown's economic base
- 2.8.h Develop downtown educational and training facilities and activities.
- 2.8.i Continue to use Redevelopment funds to upgrade downtown's appearance and infrastructure, to develop new public projects to implement the Downtown strategy, to assist in the development and financing of private projects, and to market the downtown area.

Goal Area L-3: Urban Growth and Design

GOALS

- **Living Environments which Encourage People to Use a Variety of Transportation Alternatives**
- **A Compact Urban Village Design for New Growth Areas**
- **Self-Sustaining, Mixed-Use, Pedestrian-Friendly Neighborhoods**

POLICIES AND IMPLEMENTING ACTIONS

L-3.1 Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips. *(p.3-50 to 3-51)*

- 3.1.a Encourage pedestrian or transit-friendly designs at suitable locations.
- 3.1.b Work to preserve and enhance existing neighborhoods and commercial districts which have transit and pedestrian-friendly designs.
- 3.1.c Plan areas for higher density development within 1/4 mile of locations identified as transit hubs and commercial centers.
- 3.1.d Encourage higher housing densities in areas served by the full range of urban services.
- 3.1.e Encourage mixed-use developments that provide commercial services such as day care centers, restaurants, banks, and stores near employment centers.
- 3.1.f Work closely with school districts to help them choose school site locations that allow students to safely walk or bicycle from their homes.
- 3.1.g Encourage regional shopping malls/centers at sites capable of support by a full range of transportation options.
- 3.1.h Consider air quality and mobility when reviewing any proposed change to the land use pattern of this community.

L-3.2 Encourage infill development and a compact urban form. *(p.3-52)*

- 3.2.a Encourage infill of vacant parcels.
- 3.2.b Encourage infill and redevelopment projects within the urban area that could enhance the effectiveness of the transit system.

(Notes: Please refer to the Urban Expansion Chapter for policies relating to keeping a compact urban form while promoting urban expansion.)

L-3.3 Promote site designs that encourage walking, cycling, and transit use. *(p.3-52 to 3-53)*

- 3.3.a Encourage project designs which increase the convenience, safety and comfort of people using transit, walking or cycling.
- 3.3.b Encourage all subdivision street and lot designs, commercial site plans, and multi-family site plans to improve access by transit, bicycle, and walking.
- 3.3.d Encourage all development projects proposed within 2,000 feet of an existing or planned light rail transit, commuter rail, express bus or transit corridor stop, to incorporate site design measures that improve accessibility to the transit system.

Chapter 4—Transportation and Circulation

Goal Area T-1: Streets and Roads

GOALS

- An Integrated Road System that is Safe and Efficient
- A Circulation System that is Convenient and Flexible
- A Circulation System that Minimizes Adverse Impacts upon the Community

POLICIES AND IMPLEMENTING ACTIONS

T-1.1 Design streets consistent with circulation function and affected land uses. (p.4-42 to 4-43)

- 1.1.a Implement the General Plan Circulation Plan (Figure 4.1) as development occurs.
- 1.1.b Whenever feasible implement a system of arterials and higher order streets in new growth areas based upon the adopted concept of arterials/expressways.
- 1.1.c Evaluate existing streets in older portions of the City, and identify means of upgrading the system where necessary.
- 1.1.d Design and build residential collector streets that balance as effectively as possible competing needs to be safe and efficient.
- 1.1.e Study projected future areas of City expansion prior to development to identify the most effective circulation pattern(s).
- 1.1.f Evaluate the area in proximity to the Childs Avenue/Martin Luther King Jr. Way intersection to obtain at least preliminary information regarding the general extent of area required to achieve an acceptable alignment of the intersection.
- 1.1.g Evaluate the current “Cardinal Drive” access point to G Street shown on the Northeast Yosemite Specific Plan Area map, to determine if a more appropriate access location exists to G Street for that Specific Plan area.

T-1.2 Coordinate circulation and transportation planning with pertinent regional, State and Federal agencies. (p.4-43 to 4-44)

- 1.2.a Work with Caltrans, the County, and MCAG to implement the Highway 99 Major Investment Study (MIS) once it is adopted and amend the City’s General Plan as necessary.
- 1.2.b Coordinate local circulation/transportation plans, the financing and construction of improvements, and right-of-way preservation programs with interested area and regional agencies.
- 1.2.c Identify a hierarchy pattern of major streets within the City’s General Plan and Sphere of Influence areas, and work with the County of Merced and Caltrans to retain unimpeded future rights-of-way to accommodate the current general plan period and projected future growth.
- 1.2.d Work with the County and Caltrans to implement improvements to the Highway 59 Expressway corridor as a high priority to serve the northern growth area. An important first step will be the development of a Project Study Report (PSR) for the corridor.

T-1.3 Design major roads to maximize efficiency. (p.4-44 to 4-46)

- 1.3.a Adhere, to the greatest possible extent, to the standards adopted for spacing streets that intersect arterials and higher order roadways.
- 1.3.b Improve traffic flow of all new arterial streets to the greatest possible extent by the use of median strips of sufficient width to facilitate vehicle movement.

- 1.3.c Improve traffic flow of arterials and other major roadways whenever possible by avoiding or eliminating on-street parking.
 - 1.3.d Work to insure that land uses fronting major streets have shared access across adjacent properties and provide sufficient on-site parking to avoid depending upon on-street parking.
 - 1.3.e Promote the provision of on-site visitor parking in multi-family projects.
 - 1.3.f Whenever feasible avoid, or eliminate, unnecessary or poorly placed median openings.
 - 1.3.g Avoid residential “fronting lots” on Major Collectors and higher order streets.
 - 1.3.h Obtain whenever feasible necessary rights-of-way in proximity to major intersections for needed turn lanes.
 - 1.3.i In new growth areas, obtain expanded arterial intersection rights-of-way (ROW) requirements.
 - 1.3.j Maintain the land use and access restrictions identified for major collector and higher order street intersections.
 - 1.3.k Approve driveway access locations only if consistent with approved minimum acceptable distances from major intersections, except in unusual circumstances.
- (Notes: Chapter 5, Public Services and Facilities, contains policies relating to the timing of infrastructure improvements, including circulation improvements.)*

T-1.4 Promote traffic safety.

(p. 4-47)

- 1.4.a If fronting driveways cannot be avoided on a Major Collector or higher order street (see Action 1.3.g), seek design solutions that will allow automobiles to avoid backing out.
- 1.4.b Allow only adopted spacing of streets intersecting and traffic signals on any Arterial or higher order street, unless prior actions or unusual circumstances make this infeasible.
- 1.4.c Promote increased traffic safety with special attention to hazards which could cause personal injury.
- 1.4.d Reserve adequate road and intersection right-of-way to provide for the needs of traffic safety.
- 1.4.e Continue as feasible to mitigate or reduce safety hazards, and program improvements to congested intersections before they become significant problems.
- 1.4.f Seek to improve or correct the specific problem locations identified as “Circulation System Improvement Problems” in the City’s Circulation Element.

T-1.5 Minimize unnecessary travel demand on major streets.

(p.4-48)

- 1.5.a Encourage design of local and collector streets within Villages/Neighborhoods to provide multiple, reasonably direct routes to local neighborhood destinations.
- 1.5.b Avoid whenever feasible neighborhood street system designs that make it more convenient for a local resident to use an arterial street to reach an in-neighborhood destination than to remain on the local street system.

T-1.6 Minimize adverse impacts on the environment from existing and proposed road systems.

(p.4-48 to 4-49)

- 1.6.a Continue working to minimize environmental impacts associated with heavily traveled traffic corridors, such as high noise levels and stop and go traffic situations (which contribute heavily to air pollution problems).
- 1.6.b Make a strong commitment to increase the number of people per vehicle so that the existing street system is utilized to its fullest.
- 1.6.c Consider ways to encourage employers to reduce impacts upon the existing street system.
- 1.6.d Avoid neighborhood street system designs whenever possible that require a local resident to travel away from a local destination in order to reach it.
- 1.6.e Install traffic control devices only where warranted except in unusual circumstances.

T-1.7 Minimize street system impacts on residential neighborhoods and other sensitive land uses.
(p.4-50)

- 1.7.a To the greatest extent feasible, maintain a distinct hierarchy of streets that will provide for major roadways between neighborhoods rather than through neighborhood areas.
- 1.7.b Whenever feasible, approve street circulation patterns that discourage exterior traffic from driving through neighborhoods.

T-1.8 Use a minimum peak hour Level of Service (LOS) "D" as a design objective for all new streets in new growth areas and for most existing City streets except under special circumstances.
(p. 4-51)

- 1.8.a Traffic studies will be conducted as needed to determine the traffic impacts and to apply appropriate mitigation measures for new development projects.
- 1.8.b Use peak-hour Level of Service "D" ("Tolerable Delays") as the design standard for new streets and intersections in new growth areas.
- 1.8.c Establish minimum Level of Service standards for existing roadways and intersections that reflect the special circumstances of the surrounding area.
- 1.8.d Promote Transportation System Management (TSM) strategies in areas where LOS standards fall below the minimum.

Goal Area T-2: Alternative Transportation

GOALS

- An Efficient and Comprehensive Public Transit System
- A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)
- A Comprehensive System of Safe and Convenient Pedestrianways

POLICIES AND IMPLEMENTING ACTIONS

T-2.1 Provide for and maintain a major transitway along "M" Street and possibly Bellevue Road.
(p.4-53 to 4-54)

- 2.1.a Continue to review land use decisions in the vicinity of the entire length of "M" Street to avoid creating or increasing conflicts with the intent of a major transitway.
- 2.1.b Cooperate with Merced County and other interested agencies outside the City to maintain long-term flexibility to achieve an "M" Street Transitway.
- 2.1.c Continue to review land use decisions in the vicinity of "M" Street and Bellevue Road to avoid creating or increasing conflicts with the proposed future major commercial and office park sites at the major transfer point between designated transitway corridors.
- 2.1.d Cooperate with Merced County and other interested agencies outside the City to maintain a viable option for a Bellevue Road Transitway to provide regional public transit access to the University of California (UC) campus.
- 2.1.e Cooperate with Merced County and other interested agencies outside the City to evaluate the need to extend westward the Bellevue Road Transitway Corridor Concept.
- 2.1.f Work cooperatively with Merced County and other interested agencies to review and evaluate development proposals in the vicinity of Bellevue Road that might conflict with the prospective Bellevue Transitway.

T-2.2 Support and enhance the use of public transit.

(p.4-54 to 4-55)

- 2.2.a Promote land development patterns and site design criteria that support and enhance the use of public transit.
- 2.2.b Whenever feasible, avoid residential subdivision designs that require pedestrians to duplicate walking distance (double-back) to reach public transit routes.
- 2.2.c Whenever feasible, avoid creating barriers that prevent convenient access to current or prospective public transit routes.
- 2.2.d Work with the consolidated transit system to seek Federal, State, and other funding sources which provide major funding for transit equipment, maintenance, and operation. Support legislation which will provide additional funding.
- 2.2.e Support and participate in regional public transit planning
- 2.2.f Plan for multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.
- 2.2.g Encourage park and ride lots at suitable locations serving long distance and local commuters.

T-2.3 Support a safe and effective public transit system.

(p.4-56)

- 2.3.a Include public transportation access in the review process for major public and private development projects, as well as all significant land use design proposals considered by the City.
- 2.3.b Provide transit stops on major streets.
- 2.3.c Avoid whenever possible public transportation transfer points that force passengers to cross major vehicle routes on foot.
- 2.3.d Provide off-street passenger loading/unloading at major public transportation destinations (shopping centers, etc.) whenever possible.

T-2.4 Encourage the use of bicycles as alternative transportation.

(p.4-56 to 4-57)

- 2.4.a Encourage area employers to promote bicycle use through incentive programs or other means.
- 2.4.b Study options and opportunities for extending the off-street trail (pedestrian and bicycle path) system to and through those portions of the City of Merced south of Highway 99.
- 2.4.c Continue to support whenever feasible local efforts to promote cycling.
- 2.4.d Seek to involve a cross-section of actual bicycle users in bicycle planning efforts and transportation-related bicycle activities.

T-2.5 Provide convenient bicycle support facilities to encourage bicycle use.

(p.4-57)

- 2.5.a Develop guidelines for public and private development relating to the design and location of bicycle parking facilities.
- 2.5.b Design criteria in the construction of all bicycle trails, lanes and routes (Class I, II, and III bikeways) should conform to the State of California "Planning and Design Criteria for Bikeways in California;" Class I bikeways should have grade separation with all major streets where possible.
- 2.5.c Consider providing bicycle racks on buses.

T-2.6 Maintain and expand the community's existing bicycle circulation system.

(p.4-58)

- 2.6.a Coordinate implementation and planning of the Bicycle Transportation Plan with the County of Merced and the University of California.
- 2.6.b Pursue all available revenue sources for implementing the Bicycle Transportation Plan.

T-2.7 Maintain a pedestrian-friendly environment.

(p.4-58)

- 2.7.a Retain parkstrip and street tree planting requirements in residential areas.
- 2.7.b Locate streetlights, street signs, fire hydrants, and other obstacles so they do not obstruct sidewalks and other pedestrianways.
- 2.7.c Continue to require corner curb cuts to accommodate wheelchairs.
- 2.7.d Work to maintain safe and convenient streetscapes for pedestrians.
- 2.7.e Continue to require sidewalks and pedestrianways for subdivisions and other development projects.
- 2.7.f Continue to encourage safe and convenient pedestrian environments in the downtown and other areas that attract a great deal of pedestrian traffic.
- 2.7.g Continue to encourage the provision of plazas, malls, arcades, and walk-throughs.
- 2.7.h Encourage the planting of shade trees and, as a minimum, plan for the prospective establishment of rest areas with seating facilities along major pedestrianways.
- 2.7.i Continue to review and evaluate possible options for dealing with the issue of incomplete pedestrian access to development projects that will be major pedestrian destinations.

T-2.8 Improve planning for pedestrians.

(p.4-60)

- 2.8.a Seek to provide more flexible, more usable pedestrian access opportunities to land uses and land use combinations that are prospective pedestrian destinations (sports club facilities, schools, government facilities, parks, public open space areas, etc.).
- 2.8.b Evaluate the future need for sidewalks in business parks and industrially-zoned areas.
- 2.8.c Continue to review land use and project proposals with the intent to avoid pedestrian barriers that prevent, or create unnecessarily circuitous, access to community and commercial areas.

T-2.9 Ensure that new development provides the facilities and programs that improve the effectiveness of Transportation Control Measures and Congestion Management Programs.

(p.4-61)

- 2.9.a Consider measures to increase the capacity of the existing road network prior to constructing more capacity (additional lanes, new freeways, etc.).
- 2.9.b Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives.

Goal Area T-3: Air and Rail Service

GOAL

- Air and Rail Systems that Provide Safe and Convenient Service to the Community

POLICIES AND IMPLEMENTING ACTIONS

AIR

T-3.1 Preserve the municipal airport and its protective zones from incompatible encroachment.

(p.4-63)

- 3.1.a Continue to protect the viability of approach areas and control zones for both existing and future runway systems through land use restrictions and property acquisition where necessary.

3.1.b Carefully review any zone changes or development proposals within the general area with special regard to identifying and evaluating possible long-term consequences upon the airport.

3.1.c Continue to work with Merced County to retain low-intensity, compatible County zoning in the vicinity of the Airport Clear Zone, to avoid an increase in land use pressures.

(Notes: Additional policies regarding the airport clear zones can be found in the Safety Element, Chapter 11.)

T-3.2 Promote and encourage the orderly and timely development of commercial and general aviation facilities. *(p.4-63)*

3.2.a Implement the Merced Municipal Airport Master Plan and update as necessary.

T-3.3 Provide adequate ground transportation systems that complement air transportation facilities. *(p.4-64)*

3.3.a As development in the area around the Airport takes place, consideration should be given to providing transit and truck access to airport facilities.

RAIL

T-3.4 Reduce rail system impacts on circulation within the urban area. *(p.4-64)*

3.4.a Review land use decisions in the vicinity of major at-grade railroad crossings to avoid the creation of unnecessary land use and circulation conflicts within areas that already experience special problems.

3.4.b Continue to seek approval of additional at-grade railroad crossings in the urban area.

3.4.c Continue efforts to develop a centrally-located, cross-town, separated-grade railroad crossing.

3.4.d Continue to communicate with railroad companies relating to traffic stoppage situations.

T-3.5 Support enhanced railroad passenger service for Merced. *(p.4-65)*

3.5.a Support efforts to extend existing rail passenger service directly to both Los Angeles and Sacramento.

3.5.b Support efforts to provide high speed rail passenger service to the Central Valley including a stop in Merced.

3.5.c Study, as an outgrowth of independent efforts to resurrect some form of rail service from the Central Valley to Yosemite National Park, possible options for connecting Merced to such a rail system.

T-3.6 Retain and expand as needed rail facilities serving industrial development. *(p.4-65)*

3.6.a When feasible seek to retain the availability of industrially-designated land in proximity to railroad tracks for industrial activities that actually require rail service.

Chapter 5—Public Services and Facilities

Goal Area P-1: Public Facilities and Services

GOALS

- Maintenance and Improvement of Merced's Existing Infrastructure
- New Development Which Includes a Full Complement of Infrastructure and Public Facilities
- Efficient and Cost-Effective Public Service Delivery

POLICIES AND IMPLEMENTING ACTIONS

P-1.1 Provide adequate public infrastructure and services to meet the needs of future development. *(p.5-18 to 5-19)*

- 1.1.a Through development review, ensure that utilities are adequately sized to accommodate the proposed development and, if applicable, allow for extensions for future developments, consistent with master plans.
- 1.1.b Master infrastructure plans for newly developing areas may be prepared and adopted as necessary.
- 1.1.c Include in Specific Plans and master plans, a phasing plan for providing access, sewer, water, drainage, flood control, schools, parks and other appropriate governmental facilities and services.
- 1.1.d Construct a stormwater drainage system, water system and sewer system in accordance with master plans.
- 1.1.e Apply for Federal, State and regional funding sources set aside to finance infrastructure costs to the maximum extent feasible.

P-1.2 Utilize existing infrastructure and public service capacities to the maximum extent possible and provide for the logical, timely and economically efficient extension of infrastructure and services where necessary. *(p.5-19)*

- 1.2.a Develop plans which establish priorities to address existing inadequacies in the City's infrastructure system.
- 1.2.b Expand existing facilities to the extent possible at present locations.
- 1.2.c Periodically evaluate the City's service delivery system and identify policies and programs which may improve operating efficiency and/or reduce service delivery costs.

P-1.3 Require new development to provide or pay for its fair share of public facility and infrastructure improvements. *(p.5-20)*

- 1.3.a Prepare and adopt adequate fee schedules commensurate with the cost of planned improvements and services, with annual review and update.
- 1.3.b Periodically evaluate the City's service delivery system and identify policies and programs which may be applied to new development to improve operating efficiency and/or reduce service delivery costs.
- 1.3.c All new development shall contribute its fair share of the cost of on-site and off-site public infrastructure and services as appropriate.
- 1.3.d The City may require developments to install off-site facilities which also benefit other properties.

Goal Area P-2: Police and Fire Protection Services

GOAL

- **A Community Reasonably Safe From Crime and Fire**

POLICY AND IMPLEMENTING ACTIONS

- P-2.1 Maintain sufficient public protection facilities, equipment, and personnel to serve the City's needs. .** *(p.5-21 to 5-22)*

- 2.1.a Periodically review existing and potential station facilities, equipment and manpower in light of protection service needs.
- 2.1.b Determine that new development is adequately served by fire and police protection services.
- 2.1.c Fire station sites should be selected based on the distribution of land uses and population projected when the area is fully developed.
- 2.1.d Ease of access should be a primary consideration in selecting a fire station site.
- 2.1.e Maintain an adequate and reliable water system to serve fire protection needs.
- 2.1.f Provide fire facilities and related resources to support the “central station concept.”
- 2.1.g Utilize existing community resources, to the maximum extent feasible, in the provision of public protection services.
- 2.1.h Assure that new development utilizes modern public protection concepts in their design and development.

(Notes: Additional policies and implementing actions regarding police and fire protection services can be found in the Safety Element, Chapter 11.)

Goal Area P-3: Water

GOAL

- **An Adequate Water Source, Distribution and Treatment Infrastructure System in Merced**

POLICIES AND IMPLEMENTING ACTIONS

- P-3.1 Ensure that adequate water supply can be provided within the City's service area, concurrent with service expansion and population growth.** *(p.5-23 to 5-24)*

- 3.1.a Pursue innovative programs to reduce the demand for potable (“drinkable”) water.
- 3.1.b Update the City's Water Master Plan for the Sphere of Influence Area.
- 3.1.c Update the City's Water Master Plan to include the entire expanded City SUDP area.
- 3.1.d Review the current water system maintenance program and coordinate planned water main replacements with the updated Water Master Plan.
- 3.1.e Continue to work with Merced Irrigation District and the County of Merced to ensure that adequate water supply and distribution facilities can be developed to meet the growth of the Merced metropolitan area.
- 3.1.f Continue to support policies and programs which discourage the use of private wells and water systems within the City limits.
- 3.1.g Plan and design water facilities to efficiently serve the City's urban area.
- 3.1.h The City shall not extend water service outside its incorporated limits.

[Notes: The Urban Expansion Chapter (2) includes policies regarding the extension of City services to outlying areas. The Open Space, Conservation, & Recreation Chapter (7) contains policies relating to water quality and water conservation. The Sustainable Development Chapter (8) also contains a discussion of water resources.]

P-3.2 In cooperation with the County and the Merced Irrigation District, work to stabilize the region's aquifer. (p.5-25)

- 3.2.a Work closely with the State and County agencies in exploring innovative technology and procedures for water conservation and reuse.
- 3.2.b Work cooperatively with MID to preserve and enhance its surface water delivery system.
- 3.2.c Explore the use of MID water resources for applications that do not require treated water to reduce demand on the regional groundwater supplies and reduce costs of water treatment.
- 3.2.d Cooperate with MID and the County in the development of groundwater recharge facilities as called for in the Merced Water Supply Plan.
- 3.2.e Obtain, purchase or preserve rights to open space such as transitioning agriculture lands for proposed major treatment plants, ground water recharge and storage facilities.

Goal Area P-4: Wastewater

GOAL

- **An Adequate Wastewater Collection, Treatment and Disposal System in Merced**

POLICIES AND IMPLEMENTING ACTIONS

P-4.1 Provide adequate wastewater collection, treatment and disposal capacity for projected future needs. (p.5-26)

- 4.1.a Maintain the existing wastewater system to increase the lifetime of the system.
- 4.1.b Develop wastewater master plans to serve future Merced urban expansion.
- 4.1.c Design wastewater collection systems that discourage development of prime agricultural soils.
- 4.1.d Coordinate wastewater planning activities with the County.

P-4.2 Consider the use of reclaimed water to reduce non-potable water demands whenever practical. (p.5-27)

- 4.2.a Consider designs for reclaimed water systems, including pipelines, pump stations and storage ponds, to primarily serve as irrigation for feed and fodder crops.
- 4.2.b Consider conducting a reclaimed water market study to identify potential users.
- 4.2.c Consider preparing a plan for the use of reclaimed water which evaluates the facilities and costs required to serve potential users, determines required capacities of facilities, and presents an implementation plan.

Goal Area P-5: Storm Drainage and Flood Control

GOAL

- **An Adequate Storm Drainage Collection and Disposal System in Merced.**

POLICIES AND IMPLEMENTING ACTIONS

- P-5.1 Provide effective storm drainage facilities for future development.** *(p.5-28 to 5-29)*
- 5.1.a** Continue to implement, along with MID and Merced County, the Merced County Critical Area Flooding and Drainage Plan within the Merced urban area under the overall jurisdiction of the Merced County Flood Control District (MCFCD).
 - 5.1.b** Work with the MCFCD, MID and the County to update the Merced County Critical Area Flooding and Drainage Plan to account for changes in expected storm drainage runoff due to expanded land uses within the Merced area.
 - 5.1.c** In cooperation with MID and the County, prepare a storm drainage master plan to meet the requirements of the Clean Water Act.
 - 5.1.d** Continue to require all development to comply with the Merced County Critical Area Flooding and Drainage Plan and any subsequent updates.
 - 5.1.e** Installation of facilities necessary to provide services to development projects will be based on the full buildout scenario.
- P-5.2 Integrate drainage facilities with bike paths, sidewalks, recreation facilities, agricultural activities, groundwater recharge, and landscaping.** *(p..5-29)*
- 5.2.a** Provide drainage channels in transportation or canal easement areas as much as feasible.
 - 5.2.b** Stormwater detention and groundwater recharge ponds should be designed to appear natural in character as much as feasible and dual use of recreation facilities should be promoted where conditions are compatible.

Goal Area P-6: Solid Waste

GOAL

- **Solid Waste Management Services That Accommodate the Local Population Without Causing Significant Damage to Environmental Resources**

POLICIES AND IMPLEMENTING ACTIONS

- P-6.1 Establish programs to recover recyclable materials and energy from solid wastes generated within the City.** *(p.5-30)*
- 6.1.a** Implement source reduction and recycling programs to minimize waste at the point of manufacture or use.
 - 6.1.b** Work with County officials in seeking federal and state funds for projects utilizing resources and material recovery processes.
 - 6.1.c** Participate in resource and material recovery studies.

P-6.2 Minimize the potential impacts of waste collection, transportation and disposal facilities upon the residents of Merced. (p.5-31)

- 6.2.a Intermediate processing facilities and materials recycling facilities should be distanced and buffered from sensitive land uses.
- 6.2.b Cooperate with Merced County to implement recommendations for source reduction programs which have the least environmental and economic impacts on the City and its residents.
- 6.2.c Continue implementation of programs in cooperation with the County of Merced to meet solid waste diversion goals.

(Notes: Policies regarding hazardous materials disposal are included in the Safety Element, Chapter 11.)

Goal Area P-7: Schools

GOAL

- Adequate School Facilities for All Students in the Merced Urban Area

POLICIES AND IMPLEMENTING ACTIONS

P-7.1 Cooperate with Merced Area School Districts to provide elementary, intermediate and high school sites that are centrally located to the populations they serve and adequate to serve community growth. . (p.5-32 to 5-33)

- 7.1.a Facilitate involvement of the School Districts during the site planning for new growth areas to ensure that school facilities are adequately sized, and located to serve the projected needs of the area according to the standards of the appropriate school district.
- 7.1.b Explore opportunities for new school facilities, located in urban centers, to include joint use facilities for other City, County and secondary education service provider programs and services.
- 7.1.c In general, schools should be located within neighborhoods near parks, bikeways, and other open space amenities. In urban village areas, schools should be located adjacent to Village Core Residential (higher density) areas.
- 7.1.d Monitor the residential growth within the City and make that information available to the local school districts to facilitate school planning efforts.
- 7.1.e School Districts will select new school sites consistent with the Land Use Diagram and based on its own site selection studies in coordination with the City of Merced.
- 7.1.f Designate specific school site locations on the Land Use Diagram as needs and sites are identified and ensure their compatibility with adjacent development.
- 7.1.g Elementary school sites should be encouraged to locate on collector streets near but not directly on major streets.
- 7.1.h Cooperate with the school districts to ensure that school facility impact fees are collected.
- 7.1.I Work with the school districts to obtain adequate funding for infrastructure improvements on and adjacent to school sites.

P-7.2 Support higher educational opportunities. (p.5-34)

- 7.2.a Work with Merced Community College to ensure that facilities and grounds are available to meet future student needs.
- 7.2.b Work closely with both the Merced Community College District and University of California Chancellor's Office to assure that adequate community infrastructure is available to meet their institutional needs.
- 7.2.c Work with the County and UC San Joaquin (Merced) planning staff in the preparation of necessary plans and studies for the development of the UC campus site and grounds.

Goal Area P-8: Cultural and Community Services

GOAL

- **Support for Cultural and Community Services that Improve and Maintain the Quality of Life for the Residents of Merced**

POLICIES AND IMPLEMENTING ACTIONS

- P-8.1 The City will support the cultural and health related needs of the community by incorporating such facilities and services in development and redevelopment proposals.** *(p.5-35 to 5-36)*
- 8.1.a** Encourage a range of health related facilities in Merced to meet the needs of a growing and aging population, including rehabilitation centers, walk-in medical centers, and full service hospitals.
 - 8.1.b** Encourage the planning and implementation of a multi-cultural and performing arts program and facilities in the downtown area of Merced.
 - 8.1.c** Examine the needs for developing youth services programs and supporting facilities.
 - 8.1.d** Review the long-term feasibility of development of a motel/convention center in the downtown core area.
- P-8.2 The City shall promote consolidation of complementary or support services to avoid duplication of programs.** *(p.5-36 to 5-37)*
- 8.2.a** Within the Urban Village Core areas, senior centers, satellite libraries, adult education, recreation and/or other public facilities should be located in proximity to each other in the Village Core mixed-use areas to allow for integrated activities.
 - 8.2.b** Target downtown Merced as the central location for public and government facilities in the City (e.g., County and City government centers, civic center, post office, hotel/conference center, department of motor vehicles, federal and state offices, etc.).
 - 8.2.c** Encourage day care centers to locate near schools and employment centers to allow for before and-after-school care and one stop convenience for pre-school/daycare facilities for toddlers and infants.
 - 8.2.d** Promote the development of shared cultural and recreational facilities between the community and local educational facilities.
 - 8.2.e** Continue to encourage parks to be located adjacent to schools in order to promote the joint use of buildings and sports facilities.
- P-8.3 Work with others to study innovative ways of delivering library services at the neighborhood level to promote community education and provide a focus for community activity and cultural development.** *(p.5-37)*
- 8.3.a** Explore ways to incorporate “information access” into public facilities and buildings.
 - 8.3.b** Work with the County of Merced to define an efficient means of maintaining and delivering library services within the Merced urban area.
 - 8.3.c** Explore cooperative library facility development with local school districts and secondary education institutions.
 - 8.3.d** Explore the expansion of the City’s telecommunications resources to encompass access to City documents and other resources.

Chapter 6—Urban Design

Goal Area UD-1: Urban Villages

GOALS

- An Integrated Urban Form
- Transit-Oriented Community Design
- Pedestrian- and Bicycle-Compatible Neighborhoods

POLICIES AND IMPLEMENTING ACTIONS

UD-1.1 Apply Urban Village design principles to new development in the City's new growth areas. *(p.6-8 to 6-10)*

- 1.1.a The focus of new development will be the "Urban Village," which are mixed-use, pedestrian- and transit-friendly communities within a one-square mile area.
- 1.1.b Each village shall have a mixed-use "Core Commercial" area located immediately adjacent to Village Core Residential neighborhoods.
- 1.1.c "Village Core Residential Areas" (part of the "Inner Villages") shall include residences that are within a convenient walking distance from Core Commercial areas and transit stops, and are built at densities high enough to help support them.
- 1.1.d Each Village will have an "Outer Village" adjacent to it which includes lands no further than one mile from the Core Commercial area.
- 1.1.e The location of parks, plazas, and trails should be coordinated to distribute a variety of recreation opportunities throughout the area.
- 1.1.f Uses which rely extensively upon autos or trucks are encouraged to locate in Business Park or other commercial areas along major transportation corridors.
- 1.1.g The City will work with individual property owners within the Village areas to assure that development occurs in a balanced manner to assure economic viability of individual projects.

UD-1.2 Distribute and design Urban Villages to promote convenient vehicular, pedestrian, and transit access. *(p.6-11 to 6-13)*

- 1.2.a Villages should be located to maximize access to their Core Commercial areas from their adjacent neighborhoods without relying on arterials.
- 1.2.b The boundary of each village varies with the size of the Core Commercial area and does not extend across arterials.
- 1.2.c Building intensities and densities should meet the minimum requirements set forth for a Village to promote more active centers, support transit, and encourage pedestrian-oriented development that fronts onto the street.
- 1.2.d The Village street system should provide multiple and parallel routes between the Core Commercial area and the rest of the Village. In no case shall trips which could be internal to a square mile bound by arterials be forced onto an arterial.
- 1.2.e Arterial streets should allow efficient conveyance of through traffic and must not pass through Villages.
- 1.2.f Collector and local streets should connect the Inner and Outer Village to Core Commercial areas, schools, and community parks without the use of arterials.
- 1.2.g The pedestrian and bicycle system must provide clear and direct access to the Core Commercial area and the transit stop.

UD-1.3 Promote and facilitate Core Commercial design principles in Village commercial areas.

(p.6-17 to 6-18)

- 1.3.a Each Village must have a mixed-use Core Commercial area containing ground floor retail and commercial space, including: Convenience Centers, Neighborhood Centers, and Community Centers.
- 1.3.b Core Commercial areas must be developed at sufficient intensity (typically a F.A.R. of at least 0.25) to create a focus of activity at the center of Villages.
- 1.3.c Office areas should be built at an intensity that concentrates activity near transit stops and Core Commercial areas.

UD-1.4 Promote and facilitate Urban Village residential area design principles.

(p.6-24 to 6-25)

- 1.4.a A mix of residential densities, ownership patterns, cost, and building types is desirable in Villages.
- 1.4.b A range of densities and dwelling types are permitted in Villages.

UD-1.5 Design and develop public and quasi-public buildings and uses utilizing Urban Village principles.

(p.6-32 to 6-33)

- 1.5.a Civic services should be placed in central locations in Villages.
- 1.5.b Schools should be sited in a way that provides opportunities to use pedestrian trails and bicycle routes to and from school and minimizes the need for students to cross arterial streets.
- 1.5.c Quasi-Public buildings such as religious buildings, fraternal halls, daycare facilities and private schools are encouraged to be situated and designed to face neighborhood parks or village greens.
- 1.5.d Utility facilities such as wells, pump stations, and electrical substations should be located in sites poorly suited for other forms of development, such as small sites bounded by high voltage power lines and arterials.
- 1.5.e Public parks and plazas should be designed for both active and passive uses. They should reflect and reinforce the character of the surrounding area.

Goal Area UD-2: Overall Community Appearance

GOALS

- A Unique Community Image
- Attractive Neighborhoods and Districts
- Attractive and Memorable Public Streets

POLICIES AND IMPLEMENTING ACTIONS

UD-2.1 Utilize Urban Village design concepts in neighborhood revitalization programs.

(p.6-34)

- 2.1.a Identify existing or potential neighborhood core areas that could serve as a Core Commercial area.
- 2.1.b Evaluate public transit alternatives and service levels within existing neighborhoods.
- 2.1.c Identify needed neighborhood level public and quasi-public service facilities within existing neighborhoods.

UD-2.2 Maintain and enhance the unique community appearance of Merced. (p.6-35 to 6-36)

- 2.2.a** Encourage joint City and County cooperation in establishing land use and development standards along all major gateways to the City.
- 2.2.b** Encourage the design of buildings that are in scale with adjacent development and harmonize with the character of the area or neighborhood.
- 2.2.c** Discourage the visual monotony along major streets created by designs which use uninterrupted walls or fences with little or no landscaping.
- 2.2.d** Encourage the development of methods to require acceptable levels of landscaping for new development and for effective maintenance in highly visible areas of the community.
- 2.2.e** Expand the City's programs for undergrounding utility lines.
- 2.2.f** Expand the City's policies which require architecturally suitable means of screening utility equipment and garbage containers.
- 2.2.g** Require, where possible, the landscaping of railroad corridors through the City with low maintenance yet highly effective plant materials as commonly used in the community by various Caltrans facilities.
- 2.2.h** Support merchant groups that initiate improvement programs that make commercial centers more attractive and more efficient.
- 2.2.i** Continue to support the long-term beautification and preservation of downtown commercial areas.

Chapter 7—Open Space, Conservation, and Recreation

Goal Area OS-1: Open Space for the Preservation of Natural Resources

GOALS

- Maintenance of Merced's Biological Resources
- A High-Quality, Expanding Urban Forest
- Preservation of Scenic Corridors and Resources
- Improvement and Enhancement of Water Quality

POLICIES AND IMPLEMENTING ACTIONS

OS-1.1 Identify and preserve wildlife habitats which support rare, endangered, or threatened species. (p.7-17 to 7-19)

- 1.1.a Identify, and recognize as significant, wetland habitats which meet the appropriate legal definition of Federal and State law.
- 1.1.b Urban development should occur away from identified sensitive species habitats unless specific provisions to ensure adequate protection and monitoring exist.
- 1.1.c Establish development review procedures which minimize impact on sensitive species and their habitat.
- 1.1.d Design parks and open space corridors to provide linkages between potential habitat areas.
- 1.1.e Manage Open Space areas to reduce the risk of injuring wildlife species with harmful chemicals, insecticides, herbicides, etc.
- 1.1.f Design improvements within parks, open space areas and open space corridors to facilitate animal life movement.

OS-1.2 Preserve and enhance creeks in their natural state throughout the planning area. (p.7-19)

- 1.2.a Designate major creeks, streams, woodlands, and other appropriate areas in the City's SUDP as Open Space corridors.
- 1.2.b Continue to acquire a minimum 50-foot dedication from the centerline (or 25 feet from the crown, whichever is greater) of all creeks within the planning area in order to maintain these open space areas as natural riparian preserves and recreation areas.
- 1.2.c Encourage alternatives to concrete channeling of existing creeks and streams as part of any flood control project and support more natural flood control methods.
- 1.2.d Recognize Bear, Black Rascal, Cottonwood, and Fahrens Creeks as important open space resources and promote their protection and enhancement through the use of natural plant materials.

OS-1.3 Promote the protection and enhancement of designated scenic routes. (p.7-20 to 7-21)

- 1.3.a Identify, and where appropriate, designate scenic routes within the City's expanded SUDP.
- 1.3.b Preserve the nine currently-designated Scenic Corridors.
- 1.3.c Utilize established guidelines for the review of projects proposed within a designated Scenic Corridor.
- 1.3.d Explore the feasibility of creating some scenic corridors in South Merced through the use of special landscaping standards.

OS-1.4 Improve and expand the City's urban forest.

(p. 7-21)

- 1.4.a Continue the City's Street Tree program (Merced Municipal Code 14.12) and explore alternative funding sources for providing long-term maintenance.
- 1.4.b Continue to require new development to plant street trees approximately 40 feet apart, at a maximum, along City streets.
- 1.4.c Work with local non-profit agencies, service clubs, and other voluntary organizations to plant trees and shrubs in appropriate areas throughout the City.
- 1.4.d Continue to promote Merced's "Tree City USA" designation with Arbor Day and other public events.

OS-1.5 Preserve and enhance water quality.

(p. 7-22)

- 1.5.a Utilize storm water retention basins and other "Best Management Practices" to improve the quality of stormwater discharged into the region's natural surface water system.
- 1.5.b Monitor known sources of groundwater contamination within the City and its future expansion area.
- 1.5.c Monitor ground water in areas in and around the City using septic system wastewater disposal systems.

(Notes: Additional policies regarding water supply can be found in Chapter 5, Public Facilities (Goal Area P-3), and policies regarding water conservation can be found later in this Open Space Chapter (Goal Area OS-5).

Goal Area OS-2: Open Space for the Managed Production of Resources

GOAL

■ **Protection of Regional Agricultural Resources**

POLICIES AND IMPLEMENTING ACTIONS

OS-2.1 Protect agricultural areas outside the City's SUDP from urban impacts.

(p. 7-23)

- 2.1.a Explore the use of Farmland Trusts, exclusive agricultural zoning, and the transfer of development rights to protect prime agricultural areas.
- 2.1.b Establish policies and programs which minimize conflicts between urban and agricultural uses.
- 2.1.c Minimize conflict between agricultural and urban uses by requiring buffers, such as landscape areas, roadways, or creeks, to separate these uses.

(Notes: This policy is supported by other policies and implementing actions found in the Land Use and Urban Expansion Chapters of this Plan.)

OS-2.2 Relieve pressures on converting areas containing large concentrations of "prime" agricultural soils to urban uses by providing adequate urban development land within the Merced City SUDP.

(p. 7-24)

This important policy will be carried out through several implementing actions found in the Land Use, Public Services and Facilities, and Urban Expansion Chapters of the Merced Vision 2015 General Plan. These programs are not duplicated here under this policy heading.

Goal Area OS-3: Open Space for Outdoor Recreation

GOALS

- **High-Quality Recreational Open Space**
- **Adequate Public Recreation Facilities**
- **Comprehensive Urban Trail and Bike Path System**

POLICIES AND IMPLEMENTING ACTIONS

OS-3.1 Provide high-quality park and open space facilities to serve the needs of a growing population. (p. 7-25 to 7-26)

- 3.1.a Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation open space needs of an expanding population.
- 3.1.b Consider density bonuses for development proposals which offer extra park land dedications where needed.
- 3.1.c Continue to implement the City's Parks and Open Space Master Plan and undertake a comprehensive update of the plan after adoption of the General Plan.
- 3.1.d Continue to encourage joint use agreements between the City and local school districts to combine park and school facilities when feasible.
- 3.1.e Use the City's Park Dedication Ordinance to develop the City's park system.
- 3.1.f Design and develop parks which are compatible with adjacent land uses through the establishment of a park planning process that is responsive to community and neighborhood input.
- 3.1.g Develop a priority system for acquiring parks and open space based on need, neighborhood input, growth trends, and funding sources.

OS-3.2 Maintain and expand the City's Bikeway and Trail System. (p. 7-27 to 7-28)

- 3.2.a Utilize the urban stream system in the planning and design of bikeways and trails.
- 3.2.b Make use of creekside areas, utility line easements, abandoned railroad rights-of-way, and canal easements for bikeway purposes.
- 3.2.c Provide links between parks, schools, and open space areas via the bikeway system.
- 3.2.d Provide a link between the City and County bikeway systems by establishing a connector to the Lake Road Bikeway Corridor out to Lake Yosemite.
- 3.2.e Develop an off-street bikeway and trail system in South Merced.
- 3.2.f Expand the existing bikeway system to all new growth areas as development occurs.
- 3.2.g Explore the possibility of providing unpaved trails for equestrian and mountain bike use as part of the overall trail system.
- 3.2.h Bike path designs should reflect security and other needs of the surrounding community.

OS-3.3 Maintain the City's existing high-quality open space facilities. (p. 7-28 to 7-29)

- 3.3.a Design park facilities so that a high quality of maintenance can occur with minimum effort.
- 3.3.b Encourage community participation in park maintenance and improvement programs.
- 3.3.c Explore park concession opportunities as a revenue source for park improvements and maintenance.
- 3.3.d Encourage neighborhood participation in policing and park security efforts.

OS-3.4 Develop a diverse and integrated system of park facilities throughout Merced.

(p.7-29 to 7-30)

- 3.4.a** Community parks should be distributed throughout the City.
- 3.4.b** Neighborhood parks and village greens are to be located within Villages.
- 3.4.c** Greenways should be designed to connect various park sites, schools and other public places with paths exclusively for pedestrians and bicyclists.
- 3.4.d** In cooperation with Merced County, evaluate the Lake Yosemite regional park to identify how it might adequately meet the needs of the City of Merced and the new growth areas in the region including the U.C. San Joaquin (Merced) campus.

Goal Area OS-4: Open Space for Public Health and Safety

GOAL

- A Safe Environment For Merced's Citizens

POLICY AND IMPLEMENTING ACTIONS

OS-4.1 Preserve open space areas which are necessary to maintaining public health and safety.

(p.7-31)

- 4.1.a** Continue enforcement of the City's Flood Damage Prevention Ordinance (MMC 17.48) to discourage construction in high-risk areas.
- 4.1.b** Utilize areas along railroad rights-of-way and under high-voltage power transmission lines as open space.
- 4.1.c** Continue enforcement of the City's weed abatement program to ensure undeveloped areas do not become fire hazards.
- 4.1.d** Continue to discourage residential uses in Merced Municipal Airport Clear Zones.

[Notes: Other Open Space for Public Health & Safety policies are contained under Goal Area OS-1.5, where the issue of water quality is addressed, and in the Safety Element (Chapter 11.)]

Goal Area OS-5: Conservation of Resources

GOALS

- Conservation of Water Resources
- Preservation and Protection of Soil Resources

POLICIES AND IMPLEMENTING ACTIONS

OS-5.1 Promote water conservation throughout the planning area.

(p.7-32)

- 5.1.a** Continue implementation and enforcement of the City's Water Shortage Regulations (MMC 15.42.010-100).
- 5.1.b** Continue implementation of the Water Efficient Landscaping and Irrigation Ordinance (MMC 17.60.010-070).
- 5.1.c** Provide leadership in conserving urban water resources.
- 5.1.d** Encourage public water conservation efforts.

[Notes: Water conservation policies are supported by other policies in this General Plan to protect regional water resources (Public Facilities Goal Area P-3) and water quality (Open Space Policy 1.5).]

OS-5.2 Protect soil resources from the erosive forces of wind and water.

(p.7-33)

- 5.2.a** Reduce soil erosion potential of new development.
- 5.2.b** Encourage the planting of trees as windbreaks in agricultural areas of the community.
- 5.2.c** Maintain adequate vegetation along the banks of urban streams and storm water drainage channels.

(Notes: These policies are proposed in support of Air Quality PM10 policies contained in the Sustainable Development Chapter of this Plan--Chapter 8.)

Chapter 8—Sustainable Development

Goal Area SD-1: Air Quality

GOALS

- Clean Air with Minimal Toxic Substances and Odor
- Clean Air with Minimal Particulate Content
- Effective and Efficient Transportation Infrastructure
- Coordinated and Cooperative Inter-Governmental Air Quality Programs

POLICIES AND IMPLEMENTING ACTIONS:

SD-1.1 Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Merced. (p.8-22 to 8-23)

- 1.1.a Develop uniform standards for mitigating air quality impacts resulting from development.
- 1.1.b Ensure that significant air quality impacts identified during CEQA review are consistently and fairly mitigated.
- 1.1.c All air quality mitigation measures should be feasible, implementable, and cost effective.
- 1.1.d Work with the SJVUAPCD to identify regional cumulative transportation and air quality impacts.
- 1.1.e Reduce the air quality impacts of development projects that may be insignificant by themselves, but cumulatively are significant.
- 1.1.f Encourage innovative measures to reduce air quality impacts.

SD-1.2 Coordinate local air quality programs with regional programs and those of neighboring jurisdictions. (p.8-23 to 8-24)

- 1.2.a Work with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.
- 1.2.b Consult with the SJVUAPCD during CEQA review for discretionary projects.
- 1.2.c Coordinate with other jurisdictions and other regional agencies in the San Joaquin Valley to establish consistent and uniform implementation measures (trip reduction ordinances, indirect source programs, etc.).
- 1.2.d Support cost-effective multi-use modeling and geographic information system (GIS) technology.

SD-1.3 Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and for a healthier environment. (p.8-24 to 8-25)

- 1.3.a The City of Merced will consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community.
- 1.3.b Transportation improvement should be consistent with the air quality goals and policies of the General Plan.
- 1.3.c The City of Merced will consult with transit providers to determine project impacts on long range transit plans and ensure that impacts are mitigated.

<p>1.3.d Encourage the construction of low income housing developments that use transit-oriented and pedestrian-oriented design principles.</p> <p>1.3.e The City of Merced will work with Caltrans and MCAG the Regional Transportation Planning Agency to minimize the air quality, and mobility impacts of large scale transportation projects on existing neighborhoods.</p> <p><i>(Notes: The Urban Design goals and policies contain specific standards for land use which incorporate the Urban Villages design concepts for developing land uses which support development and operations of public transportation systems and other alternative modes of transportation.)</i></p>
<p>SD-1.4 Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality. <i>(p.8-25)</i></p> <p>1.4.a Work to improve the public's understanding of the land use, transportation, and air quality link.</p> <p>1.4.b Support SJVUAPCD efforts to encourage formation of local groups that provide air quality education programs.</p>
<p>SD-1.5 Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs. <i>(p.8-26)</i></p> <p>1.5.a Study implementing innovative employer-based trip reduction programs for their employees.</p> <p>1.5.b Fleet vehicle operators should evaluate alternatives which include replacing or converting conventional fuel vehicles with clean fuel vehicles.</p> <p>1.5.c Support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible.</p> <p>1.5.d Make use of telecommuting programs as part of their trip reduction strategies.</p> <p>1.5.e Encourage the development of state of the art communication infrastructure linked to the rest of the world.</p>
<p>SD-1.6 Reduce emissions of PM10 and other particulates with local control potential. <i>(p.8-27)</i></p> <p>1.6.a Work with the SJVUAPCD to reduce to the maximum extent feasible particulate emissions from construction, grading, excavation, and demolition.</p> <p>1.6.b Reduce PM10 emissions from City maintained roads to the maximum extent feasible.</p>

Goal Area SD-2: Cultural Resources

GOALS:

- **A Diverse And Rich Historic and Cultural Resource Environment**
- **A Long-Term Community Historic Preservation/Improvement Program**

POLICIES AND IMPLEMENTING ACTIONS:

- SD-2.1 Identify and preserve the City's archaeological resources.** *(p.8-28 to 8-29)*
- 2.1.a** Utilize the inventory of known archeological sites maintained the Central California Information Center for the review of development proposals.
- 2.1.b** Utilize standard practices for preserving archeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

2.1.c	If appropriate, consider reconstruction of archaeological sites in City parks, on school grounds, in open space areas, or other suitable locations where they can serve an educational purpose.	
SD-2.2	Identify and preserve the City's historic and cultural resources.	<i>(p.8-29 to 8-30)</i>
2.2.a	Expand City cultural and historic information resources.	
2.2.b	Support community groups and individuals working to preserve, protect and enhance the City's Historic and Cultural Resources.	
2.2.c	Review and revise as necessary, the City's development/construction regulations to facilitate the preservation of historic structures.	
2.2.d	Support, as feasible, efforts to promote the preservation of historically or architecturally significant structures in the City.	
2.2.e	Support efforts to designate historic districts within the City.	
SD-2.3	Develop and promote financial incentive programs for historic preservation efforts.	<i>(p.8-30)</i>
2.3.a	Work to identify financial resources which can be used for historic preservation efforts in Merced.	
2.3.b	Provide access to information on financial resources available to property owners to assist in historic preservation/restoration efforts.	

Goal Area SD-3: Energy Resources

GOAL

- Sustainable Energy Resource Use in the City of Merced

POLICIES AND IMPLEMENTING ACTIONS

SD-3.1	Promote the use of Solar Energy technology.	<i>(p.8-31 to 8-32)</i>
3.1.a	Encourage the use of solar energy in design and management of all new construction in the City.	
3.1.b	Require all new subdivisions to maximize, to the extent feasible, proper orientation of lots with regard to solar utilization.	
3.1.c	Encourage developers and builders to properly design all structures on each building lot in the City to take fullest advantage of solar use in heating and cooling.	
3.1.d	Encourage developers and builders to maximize "passive" solar design, such as large south-facing windows for winter heat gains and overhangs and shading for summer heat protection.	
3.1.e	Pursue further investigation of potential benefits utilizing building code revision, narrower streets, solar access rights, and other energy-saving techniques.	
<i>(Notes: These policies are based on the City's Energy policies adopted in 1979.)</i>		
SD-3.2	Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development.	<i>(p.8-32 to 8-33)</i>
3.2.a	Work with the local energy providers on voluntary incentive-based programs to encourage the use of energy efficient designs and equipment.	
3.2.b	Cooperate with the local building industry, utilities and the SJVUAPCD to promote enhanced energy conservation standards for new construction.	
3.2.c	Encourage new residential, commercial, and industrial development to reduce air quality impacts from area sources and from energy consumption.	

Chapter 9—Housing

Goal Area H-1: New Affordable Housing Construction

GOALS

- **Increase The Stock of Affordable Housing for Very Low, Low, and Moderate Income Households**
- **Encourage A Mix of Housing Throughout the City To Meet The Needs of Different Income Groups**
- **Encourage The Construction of Housing and Facilities To Meet Special Needs, Including Farmworkers, Homeless, Large Families, Seniors, And People With Physical Or Mental Disabilities**

POLICIES and IMPLEMENTING ACTIONS

H-1.1 Support increased densities in residential areas. (p. 9-60 to 9-61)

- 1.1.a Evaluate residential densities through the General Plan process.
- 1.1.b Promote use of Residential Planned Development zoning designation.
- 1.1.c Review minimum area requirements for RPD Districts.
- 1.1.d Encourage mixed-use development Downtown.
- 1.1.e Review maximum lot coverage for R-1-5, R-2, and R-3 Districts.*
- 1.1.f Review R-2 District requirements.*
- 1.1.g Allow subdivision of deep lots*

**Programs that could be implemented as part of the Affordable Housing Ordinance (H-1.3).*

H-1.2 Review design standards to support affordable housing. (p. 9-61 to 9-62)

- 1.2.a Review water and sewer pipe requirements.
- 1.2.b Review street width requirements and classification procedures.

H-1.3 Develop and implement an Affordable Housing Ordinance. (p. 9-62 to 9-63)

- 1.3.a Adopt an Affordable Housing Ordinance.
- 1.3.b Establish and monitor affordability levels.
- 1.3.c Provide eligibility screening and referral.

H-1.4 Pursue joint development agreements. (p. 9-63 to 9-64)

- 1.4.a Participate in Joint Development Agreements.

H-1.5 Provide priority review and permitting for affordable housing projects. (p. 9-64)

- 1.5.a Provide priority review and “Fast-Track” Permitting for affordable housing developments.

H-1.6	Support the construction of second units.	<i>(p.9-64 to 9-65)</i>
1.6.a	Review second unit occupancy requirements.	
1.6.b	Increase lot coverage for second unit lots in R-1-6 districts.	
1.6.c	Encourage homeowners to construct second units.	
H-1.7	Pursue State and Federal funds for new housing construction.	<i>(p.9-65)</i>
1.7.a	Apply for State and Federal funds to support new housing construction.	
1.7.b	Provide assistance for private and nonprofit applicants to State and Federal programs.	
H-1.8	Support housing to meet Special Needs.	<i>(p.9-65)</i>
1.8.a	Promote and develop housing to meet Special Needs.	
H-1.9	Continue the “Build-A-House” Project with Merced College.	<i>(p.9-66)</i>
1.9.a	Support the “Build-A-House” Project with Merced College.	

Goal Area H-2: Housing Conservation and Rehabilitation

GOAL

- **Ensure Quality Affordable Housing through the Conservation and Rehabilitation of the Existing Housing Stock**

POLICIES AND IMPLEMENTING ACTIONS

H-2.1	Continue the City’s Housing Rehabilitation Loan Program.	<i>(p.9-67)</i>
2.1.a	Continue the Housing Rehabilitation Loan Program for homeowners and owners of rental properties.	
2.1.b	Identify and notify owners of substandard units.	
H-2.2	Promote preventative maintenance and energy conservation in older housing units.	<i>(p.9-68)</i>
2.2.a	Identify and notify owners of older units or units in need of moderate repairs.	
2.2.b	Provide public information on preventative maintenance and energy conservation.	
H-2.3	Pursue State and Federal funds to support conservation and rehabilitation.	<i>(p.9-68)</i>
2.3.a	Apply for State and Federal funds to support housing conservation and rehabilitation.	
H-2.4	Retain existing subsidized lower-income units.	<i>(p.9-69)</i>
2.4.a	Monitor Affordable Projects At Risk of Conversion to Market Rate.	
2.4.b	Work with the Merced County Housing Authority to maintain and seek additional Section 8 funding.	
2.4.c	Continue rental subsidy allocations in Merced.	
2.4.d	Assist local nonprofits in purchasing At-Risk Projects.	

Goal Area H-3: Housing Affordability

GOALS

- Increase Homeownership Opportunities for Low and Moderate Income Groups
- Provide Financial Assistance as Needed to Very Low and Low Income Renter Households

POLICIES AND IMPLEMENTING ACTIONS

H-3.1 Provide downpayment assistance to qualifying homebuyers. (p. 9-70)

3.1.a Establish a Downpayment Assistance Program.

H-3.2 Work with the Housing Authority to continue and expand Section 8 Programs. (p. 9-71)

3.2.a Continue cooperative efforts with the County Housing Authority.

H-3.3 Explore the potential for an experimental rental assistance program for the homeless. (p. 9-71)

3.3.a Explore the potential for an experimental “Rental Assistance Program” for the Homeless.

H-3.4 Coordinate with local agencies to provide assistance to the homeless. (p. 9-72)

3.4.a Continue to support efforts to coordinate Homeless services.

3.4.b Explore the feasibility of developing transitional housing for the Homeless and a permanent Emergency Shelter facility.

H-3.5 Pursue State and Federal funds to assist affordability efforts. (p. 9-72)

3.5.a Apply for State and Federal funds to support affordability efforts.

Goal Area H-4: City Coordination

GOALS

- Coordinate Innovative Housing Efforts with Private and Nonprofit Developers as well as Other Jurisdictions and City Departments.
- Ensure Accountability and Success of the Housing Action Plan.

POLICIES AND IMPLEMENTING ACTIONS

H-4.1 Establish an Affordable Housing Community Fund. (p. 9-73 to 9-74)

4.1.a Establish an Affordable Housing Community Fund.

4.1.b Maximize public and private contributions to the City’s Affordable Housing Community Fund.

H-4.2	Educate the public regarding affordable housing issues and programs.	<i>(p.9-74)</i>
4.2.a	Provide ongoing public information on affordable housing issues and programs.	
4.2.b	Establish a Tenant and Landlord Education Program.	
H-4.3	This policy was deleted by City Council action on 11/4/96.	<i>(p.9-75)</i>
4.3.a	This action was deleted by City Council action on 11/4/96.	
H-4.4	Support the City of Merced General Plan Update.	<i>(p.9-75)</i>
4.4.a	Work with planning staff to update the City of Merced General Plan.	
H-4.5	Periodically review and evaluate the Housing Action Plan.	<i>(p.9-76)</i>
4.5.a	Conduct an annual program review and evaluation.	
4.5.b	Review, revise and confirm goals, policies, programs and quantified objectives every five years.	
H-4.6	Ensure that the City of Merced provides its fair-share of affordable housing.	<i>(p.9-76)</i>
4.6.a	Coordinate with County-wide policies and objectives.	

Chapter 10—Noise

Goal Area N-1: Noise

GOALS

- A Quiet Environment
- Sensitive Land Uses Protected From Excessive Noise

POLICIES AND IMPLEMENTING ACTIONS

- N-1.1 Minimize the impacts of aircraft noise.** *(p.10-8)*
- 1.1.a Continue to follow the established noise abatement procedures for the Merced Municipal Airport, such as no right turn after take-off from Runway 30.
 - 1.1.b Encourage the use of noise-reducing flight procedures for large aircraft using Merced Municipal Airport, such as maintaining minimum flight altitudes.
 - 1.1.c Follow the recommendations stated in the Merced Municipal Airport (MMA) Master Plan, such as to limit industrial/commercial uses to those with peak occupancy levels of no more than 25 persons/acre in the designated Safety Zone #2 of the Airport Land Use Commission Policy Plan; and to prohibit residential land use designation within the referral area of the MMA in the Land Use Element.
 - 1.1.d Work with the Joint Powers Agency to minimize future noise impacts from any proposed aircraft reuse of the former Castle Air Force Base (CAFB) facility.
 - 1.1.e Update projected noise contours as information becomes available.
- N-1.2 Reduce surface vehicle noise.** *(p.10-9)*
- 1.2.a Continue to discourage truck traffic and through traffic in residential areas in Merced.
 - 1.2.b Evaluate the need to prepare and adopt a Noise Ordinance for the City of Merced.
- N-1.3 Reduce equipment noise levels.** *(p.10-9)*
- 1.3.a Limit operating hours for noisy construction equipment used in the City of Merced.
 - 1.3.b Review City functions (e.g. construction, refuse collection, street sweeping, tree trimming) to insure that noise generated by equipment has been reduced to the lowest practicable level.
 - 1.3.c Include maximum noise level permitted for City equipment purchases and construction contracts.
- N-1.4 Reduce noise levels at the receiver where noise reduction at the source is not possible.** *(p.10-9 to 10-10)*
- 1.4.a Require new residential projects to meet acceptable noise level standards as follows:
 - A maximum of 45 dB for interior noise level for residential projects.
 - A maximum of 60 dB for exterior noise level, especially when outdoor activities are important components of a project.
 - A maximum of 65 dB when all the best available noise-reduction techniques have been exhausted without achieving 60 dB, and the strict application of such a maximum becomes a hindrance to development needed or typical for an area.
 - A maximum of 70 dB for rail noise when 45 dB is maintained in bedrooms and the accumulation of the total number of noisy events does not exceed 45 dB for more than 30 minutes during night-time hours (11:00 p.m. to 7:00 a.m.) and does not exceed an accumulated 60 minutes during any 24-hour period.

- 1.4.b For areas within Merced that were formerly impacted by aircraft noise from Castle Air Force Base (CAFB), work to eliminate added federal noise mitigation measures that apply to construction only within these areas.
- 1.4.c Use the "normally acceptable" noise levels as established in the "Noise and Land Use Compatibility Guidelines" (Figure 10.6) for the review of non-residential land uses.
- 1.4.d Evaluate the need for, and the cost of, setting up an enforcement program, including liaison with the Merced County Health Department, for assistance in on-site noise measurement.

N-1.5 Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources. *(p.10-10)*

- 1.5.a Create a master noise contours map to be used in the review and approval process for development proposals, as well as for evaluating Circulation, Land Use, and Open Space plans to minimize noise impacts on noise-sensitive areas.
- 1.5.b As feasible revise and redesignate in the Land Use Element areas that are in conflict with the noise level generated in the vicinity.
- 1.5.c As feasible, require noise barriers and/or increased setbacks between heavy circulation corridors and noise-sensitive land uses (see Figures 10.2a and 10.2b).
- 1.5.d Require field noise measurements when new development may be impacted by high noise levels.

N-1.6 Mitigate all significant noise impacts as a condition of project approval for sensitive land uses. *(p.10-10)*

- 1.6.a Consider site design techniques for new construction as the primary means to minimize noise impacts, such as building placement, increased landscaped setbacks, orientation of noise-tolerant components (i.e. parking, utility areas, maintenance facilities) between the noise source and the receptor, use of a combination of noise barriers and landscaped berms, etc. (see Figures 10.2a and 10.2b).
- 1.6.b Encourage developers to consider alternative architectural designs as a means of meeting noise reduction requirements, such as:
 - Use noise tolerant rooms (kitchen, garages, bathrooms) to shield other noise sensitive rooms or areas (living rooms, bedrooms).
 - Locate bedrooms away from major roadways.
 - Use architectural design techniques and materials for building facades that will help shield noise.
 - Avoid balconies or operable windows facing major travel routes.

Chapter 11—Safety

Goal Area S-1: Disaster Preparedness

GOAL

- **General Disaster Preparedness**

POLICY AND IMPLEMENTING ACTIONS

S-1.1 Develop and maintain emergency preparedness procedures for the City. *(p.11-3)*

- 1.1.a Keep up-to-date through annual review the City's existing Emergency Plan.
- 1.1.b Prepare route capacity studies and determine evacuation procedures and routes for different types of disasters.
- 1.1.c Require that all new annexation areas be incorporated into the City's emergency plan at the time of annexation.
- 1.1.d Establish a process whereby the City of Merced systematically encourages review of and familiarity with the most current community disaster plan by those in local government and other local residents who hold responsible positions.
- 1.1.e Continue to adopt and respect agreements with the County and adjacent communities for mutual and automatic aid assistance.

Goal Area S-2: Seismic Safety

GOAL

- **Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity**

POLICIES AND IMPLEMENTING ACTIONS

S-2.1 Reduce the potential danger from earthquake and seismic-related activity from existing buildings where necessary. *(p.11-4)*

- 2.1.a Evaluate the need for and the cost of setting up an enforcement program for eliminating any unreasonable risk associated with seismically unsafe buildings through reinforcement or removal where necessary.
- 2.1.b Study the possibility of obtaining State Historic Preservation, Community Development Block Grant, Redevelopment, or other available money to assist with repairs of unsafe buildings.
- 2.1.c Continue to require that new development meet the standards of Seismic Zone 3.
- 2.1.d Pursue uniform infrastructure, building, and land use requirements and policies regarding disaster avoidance within the City's Specific Urban Development Plan boundaries.
- 2.1.e Review all possible new additions to the City's Building and Fire Codes based on up-to-date technology every three years.
- 2.1.f Develop mitigation plans for each of the buildings identified in the Building Division's 1990 Seismic Evaluation of Downtown Merced as "immediate hazards."
- 2.1.g Continue to implement the 1993 State law requiring seismic retrofitting of existing buildings when there is a change of use, additions, or remodeling that affects unreinforced masonry portions of the structure.

S-2.2 Encourage the improvement of all public facilities and infrastructure such as natural gas, fuel, sewer, water, electricity, and railroad lines and equipment with up-to-date seismic safety features. (p.11-5)

- 2.2.a** Work with Caltrans to review and, where possible, increase the earthquake stability of grade-separated transportation structures such as highway bridges and overpasses within the City's planning area.
- 2.2.b** Provide adequate storage facilities to insure an adequate supply of water in the event of seismic activity. An evaluation of the seismic safety of the water system, including the elevated water towers, should be completed as part of the update of the Water Master Plan.

S-2.3 Restrict urban development in all areas with potential ground failure characteristics. (p.11-5)

- 2.3.a** Investigate the feasibility of performing an inventory of areas with generally unstable ground within the SUDP area and work with the County to restrict or prohibit their development. In the Merced planning area, most of the unstable ground are in old streams beds, near embankments, and adjacent to streams with sufficient velocities to erode the bank.
- 2.3.b** Retain a high level of groundwater supply in order to reduce the possibility of land subsidence, including the initiation of an educational program to discourage excessive, inefficient uses of water.

Goal Area S-3: Flooding

GOAL

- **A City Free From Other Than Street Flooding**

POLICIES AND IMPLEMENTING ACTIONS

S-3.1 Endeavor to remove most of the existing City, and the vast majority of the SUDP, from the 100-year floodplain. (p.11-6)

- 3.1.a** Work on the development and implementation of a funding plan to provide for the City's share of the Merced Streams Project. Consider basing assessments on those areas which would benefit from removal from the 100-year flood and/or Lake Yosemite's inundation area.

S-3.2 Maintain essential City services in the event of flooding or dam failure. (p.11-6)

- 3.2.a** Continue to build all pump stations (both sewer and water) entryways at one (1) foot above the 100-year flood elevation and consider additional standards to address flooding due to dam failure.
- 3.2.b** Continue the "flood-proofing" of high-value or important City infrastructure, such as lift stations and signal control functions, as required by the City's Flood Damage Prevention Ordinance.

Goal Area S-4: Fire Protection

GOAL

- **Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression**

POLICIES AND IMPLEMENTING ACTIONS

- S-4.1 Promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community.** *(p.11-7)*

- 4.1.a** Provide additional fire station locations as expansion of the City occurs in order to maintain a response objective of 4 to 6 minutes citywide.
- 4.1.b** Work with the Fire Department and the Environmental Health Division to identify fire districts that will require specialized manpower and equipment, such as businesses that use hazardous materials, and request that land uses or structures with similar needs be confined to these districts.

- S-4.2 Maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.** *(p.11-7)*

- 4.2.a** Continue to use 8-inch or larger pipe in high-value districts. In residential districts, additional "looping" or completion of water main grids shall continue to be provided where possible so that lengths of 6-inch pipe on the long side of the block will not exceed 600 feet.
- 4.2.b** Maintain current standards defined in the Uniform Fire Code and City Standards for the spacing of fire hydrants. In general, these standards call for 500-foot spacing in residential areas and 300-foot spacing in commercial and industrial areas.
- 4.2.c** Continue to provide fire prevention and disaster preparedness information through the schools, public interest groups, and other facilities and people.
- 4.2.d** Expand the inspection program to include the following recommendations by the Insurance Services Office of California:
 - a. Perform fire prevention inspections of all buildings other than dwellings once a year, except hazardous occupancies which should be inspected twice a year.
 - b. Establish a program of adequate reinspection of electrical wiring and equipment.
- 4.2.e** Expand the present nuisance abatement program to include a height limit on weeds during the dry season (mid-April through mid-November) in both vacant and developed lots, abandoned vehicles, and vacant buildings.

Goal Area S-5: Airport Safety

GOAL

- **A Safe Airport Environment Both Above and On the Ground**

POLICIES AND IMPLEMENTING ACTIONS

S-5.1 Continue to protect approach areas and control zones for both existing and future runway systems through land use regulations and property acquisition where necessary. (p.11-8)

- 5.1.a Retain existing agricultural land uses and discourage residential land use designations within the Merced Municipal Airport referral area.
- 5.1.b Limit industrial/commercial uses to those with peak occupancy levels of 25 persons/acre or less within Zone 2 of the Merced Municipal Airport referral area.
- 5.1.c Explore alternatives for acquiring approach protection easements and overflight easements for properties within the Merced Municipal Airport referral area.

S-5.2 Prevent the encroachment of potential hazards to flight within the Airport's airspace. (p.11-8)

- 5.2.a Continue to follow Federal Aviation Regulation standards regarding the maximum height of structures and other objects within the Merced Municipal Airport referral area.

Goal Area S-6: Crime

GOAL

- **Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community**

POLICIES AND IMPLEMENTING ACTIONS

S-6.1 Provide superior community-based police services. (p.11-9)

- 6.1.a Continue programs, such as "Neighborhood Watch" which increase residents' involvement in, and ownership of, police operations.
- 6.1.b Direct services and outreach programs towards youths in the community.
- 6.1.c Locate future police facilities to enhance the "community policing" concept through the expansion of existing or the addition of new police service districts as the City grows.

S-6.2 Provide services and personnel necessary to maintain community order and public safety. (p.11-9)

- 6.2.a Maintain a police force sufficiently staffed and deployed to ensure quick response times to emergency calls.
- 6.2.b Encourage approaches to crime prevention to be designed into new buildings and subdivisions.
- 6.2.c Identify changes to current laws and ordinances or create new ones to help carry out crime prevention strategies.

Goal Area S-7: Hazardous Materials

GOAL

- **Hazardous Materials Safety for City Residents**

POLICIES AND IMPLEMENTING ACTIONS

- S-7.1 Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.** *(p.11-10)*

- 7.1.a Support Merced County in carrying out and enforcing the Merced County Hazardous Waste Management Plan.
- 7.1.b Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.
- 7.1.c Continue to make sure underground storage tanks containing hazardous materials are properly installed, used, and removed.
- 7.1.d Provide continuing training for hazardous materials enforcement and response personnel.

- S-7.2 Ensure that hazardous materials are cleaned up before a property is developed or redeveloped.** *(p.11-10)*

- 7.2.a Request an assessment of the past use of hazardous materials and soils analysis on proposed development sites.
- 7.2.b Continue to work with the State Department of Health Services and Merced County in developing cleanup programs for known hazardous waste sites within the Merced planning area.



City Council

and

Planning Commission

Resolutions

March/April 1997

RESOLUTION NO. 97- 23

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MERCED
ADOPTING THE MERCED VISION 2015 GENERAL PLAN

THE CITY COUNCIL OF THE CITY OF MERCED DOES HEREBY
RESOLVE AS FOLLOWS:

SECTION 1. Having been considered by the City Council following public hearing on April 7, 1997, the following elements of the General Plan of the City of Merced are hereby amended: Urban Expansion, Land Use, Circulation, Transportation and Public Services and Facilities, Open Space, Conservation, and Recreation.

SECTION 2. Having been considered by the City Council following public hearing on April 7, 1997, the following elements are hereby added to the General Plan of the City of Merced: Urban Design and Sustainable Development.

SECTION 3. Said amendments and additions to the General Plan as described in Sections 1 and 2 hereof shall read as set forth in Exhibit A attached hereto.

SECTION 4. The current General Plan, to the extent that it is inconsistent with Exhibit A, is hereby superseded.

PASSED AND ADOPTED by the City Council of the City of Merced at a regular meeting held on the 7th day of April, 1997, by the following called vote:

AYES:	Council Members:	SULLIVAN, WALSH, KNUDSEN, THURSTON, AMEY, MOORE, BERNASCONI
NOES:	Council Members:	NONE
ABSTAIN:	Council Members:	NONE
ABSENT:	Council Members:	NONE

ATTEST:

JAMES G. MARSHALL, CITY CLERK

BY: *Dorothy C. Penner*
Deputy City Clerk

(SEAL)

APPROVED:

Richard Bernasconi
Mayor



CITY OF MERCED
Planning Commission

Resolution #2409

WHEREAS, the Merced City Planning Commission at its regular meetings of March 5, 1997 and March 19, 1997, held a public hearing and considered the adoption of the *Merced Vision 2015 General Plan*; and,

WHEREAS, the Merced City Planning Commission concurs with Findings A through R of Staff Report #97-08 and #97-08 (Addendum); and,

WHEREAS, after reviewing the City's Environmental Impact Report and fully discussing all the issues, the Merced Planning Commission does recommend adoption of the *Merced Vision 2015 General Plan* Document as shown in the July 1996 Public Review Draft with the changes outlined in Attachment A--Revised of Staff Report 397-08 Addendum:

Upon motion by Commissioner RUSNAK, seconded by Commissioner ANDERSEN and carried by the following vote:

AYES: Commissioners Andersen, Schilling, Eisenhart, Riordan, Love, Rusnak,
Chairman Hinds
NOES: None
ABSENT: None
ABSTAINED: None

WHEREAS, after reviewing the *Merced Vision 2015 General Plan* Land Use Diagram, the Merced Planning Commission does recommend adoption of the *Merced Vision 2015 General Plan* Land Use Diagram (Figure 3.1), with changes outlined in Attachment C of Staff Report #97-08 Addendum, in the following sectors:

Sector I --North of Highway 99/Bear Creek and West of M Street:

Upon motion by Commissioner ANDERSEN, seconded by Commissioner RUSNAK and carried by the following vote:

AYES: Commissioners Andersen, Schilling, Eisenhart, Riordan, Rusnak,
Chairman Hinds
NOES: None
ABSENT: None
ABSTAINED: Commissioner Love

March 19, 1997

Sector II -- North of Olive Avenue and East of M Street:

Upon motion by Commissioner EISENHART, seconded by Commissioner RIORDAN and carried by the following vote:

AYES: Commissioners Schilling, Eisenhart, Riordan, Love, Chairman Hinds

NOES: None

ABSENT: None

ABSTAINED: Commissioners Andersen and Rusnak

Sector III -- North of Bear Creek, South of Olive Avenue, and East of M Street:

Upon motion by Commissioner RUSNAK, seconded by Commissioner ANDERSEN and carried by the following vote:

AYES: Commissioners Andersen, Eisenhart, Riordan, Love, Rusnak,

NOES: None

ABSENT: None

ABSTAINED: Commissioner Schilling and Chairman Hinds

Sector IV -- South of Bear Creek

Upon motion by Commissioner RIORDAN, seconded by Commissioner LOVE and carried by the following vote:

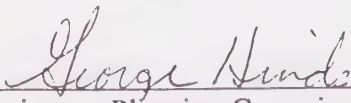
AYES: Commissioners Andersen, Schilling, Riordan, Love, Rusnak,
Chairman Hinds

NOES: None

ABSENT: None

ABSTAINED: Commissioner Eisenhart

Adopted this 19th day of March, 1997



Chairman, Planning Commission of
the City of Merced, California

ATTEST:



Secretary

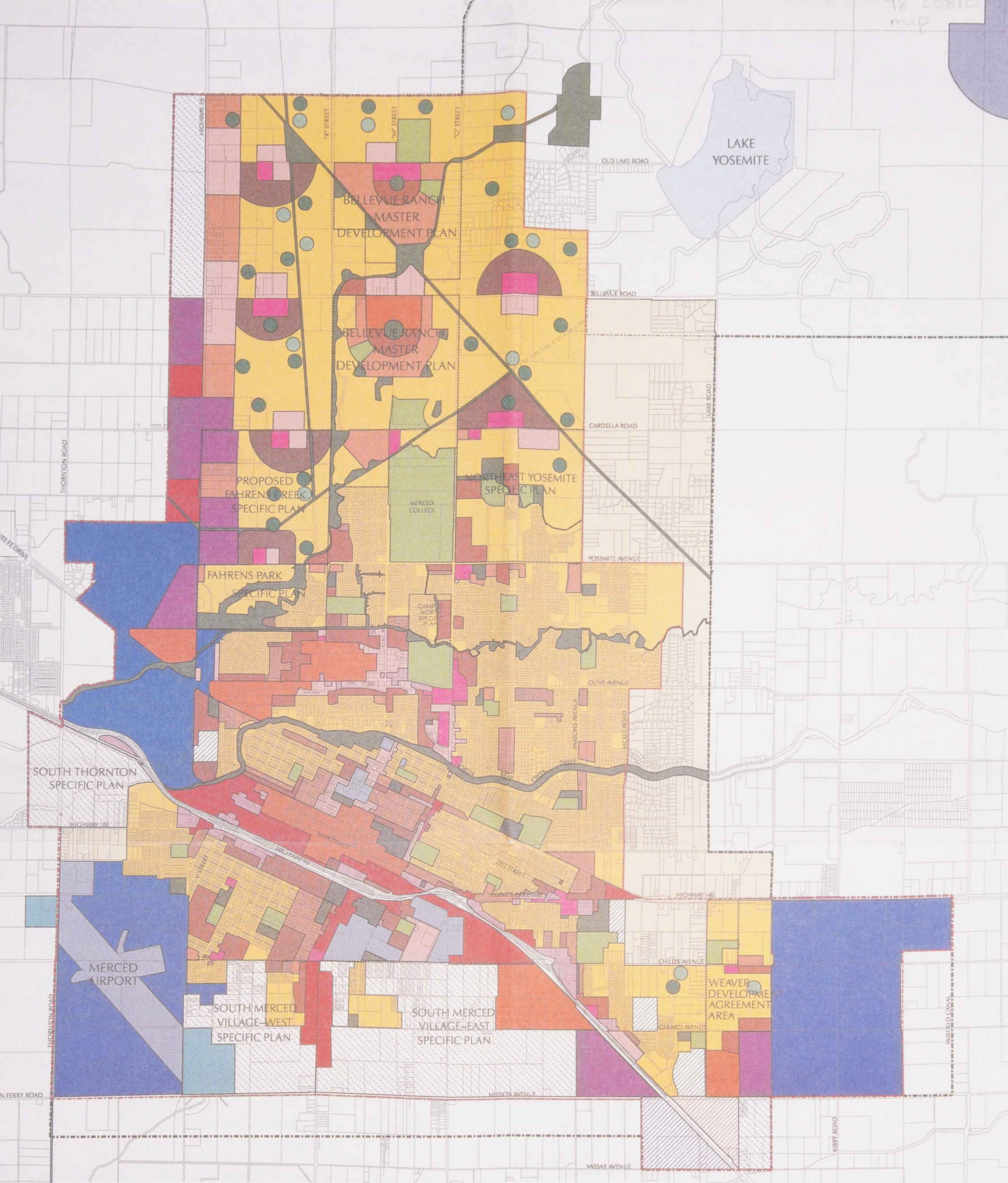


MERCED VISION 2015 GENERAL PLAN

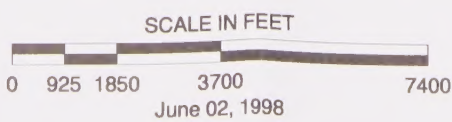
Figure 3.1--Land Use Diagram

Changes Since March 1996 Draft

#	APN#	Location	Designation on Land Use Diagram (3/8/96)	Corrected Designation	Source
1	236-010-011	Northeast corner of Donna & R	LD ("Low Density Residential") and LMD ("Low Medium Density Residential")	HD ("High Density Residential")	GPA#96-02 (Approved 7/1/96)
2	236-220-018	Northwest corner of Olive & M	CO ("Commercial Office")	CT ("Thoroughfare Commercial")	GPA#96-03 (Approved 7/1/96)
3	236-245-002	Northwest corner of El Portal & G	HMD ("High Medium Density Residential")	CO ("Commercial Office")	GPA#96-06 (Approved 2/18/97)
4	6-050-058	Northwest corner of Donna & Parsons	CO ("Commercial Office")	LMD but line between LMD and LD will be shifted 100 feet north	Property Owner Request
5	61-260-12 61-260-13 61-260-68	North side of Parsons between Childs and Gerard	CN ("Neighborhood Commercial")	HMD ("High Medium Density Residential")	Delay for Separate Public Hearing Process
6	58-100-004, 58-100-012, 58-110-022	North side of North Bear Creek Dr., south of the Santa Fe RR tracks	LMD ("Low Medium Density Residential")	LD ("Low Density Residential")	Drafting Error
7	30-015-01	Southeast corner of 27th & Canal	LD ("Low Density Residential")	CO ("Commercial Office")	Delay for Separate Public Hearing Process at Request of Property Owner
8	30-014-002	South side of W. 28th St., 75 feet east of Canal St.	CO ("Commercial Office")	LD ("Low Density Residential")	Drafting Error



	RURAL RESIDENTIAL		NEIGHBORHOOD COMMERCIAL		PUBLIC/GOVERNMENT
	LOW DENSITY		REGIONAL/COMMUNITY		PARK/OPEN SPACE/RECREATION
	LOW MEDIUM DENSITY		THOROUGHFARE COMMERCIAL		SCHOOL
	HIGH MEDIUM DENSITY		GENERAL COMMERCIAL		FLOATING PARK SITES
	HIGH DENSITY		COMMERCIAL RESERVE		FLOATING SCHOOL SITES
	MOBILE HOME PARK		INDUSTRIAL		AGRICULTURE
	VILLAGE RESIDENTIAL		INDUSTRIAL RESERVE		SPHERE OF INFLUENCE
	RESIDENTIAL RESERVE		BUSINESS PARK		SUDP
	COMMERCIAL/PROFESSIONAL OFFICE		BUSINESS PARK RESERVE		JOINT UC PLANNING AREA



MERCED VISION 2015 - GENERAL PLAN MAP

